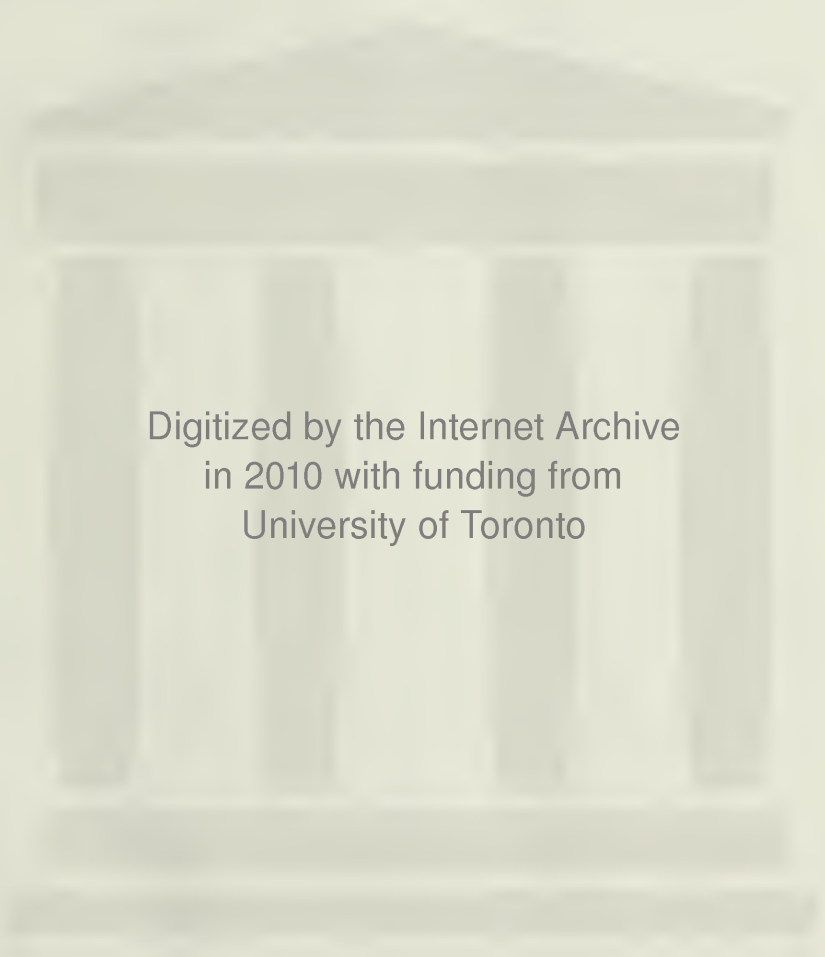


**International Record of Medicine.**

V. 113 no. 10





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# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and the Medical News

*A Semimonthly Review of Medicine and Surgery, Established 1843*

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PHILADELPHIA NEW YORK, WEDNESDAY, MARCH 16, 1921

CHICAGO

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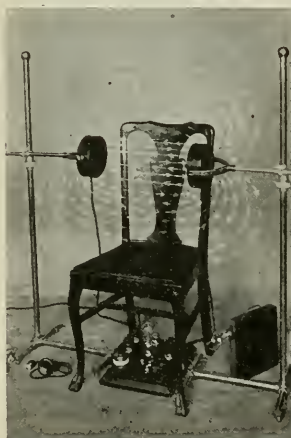
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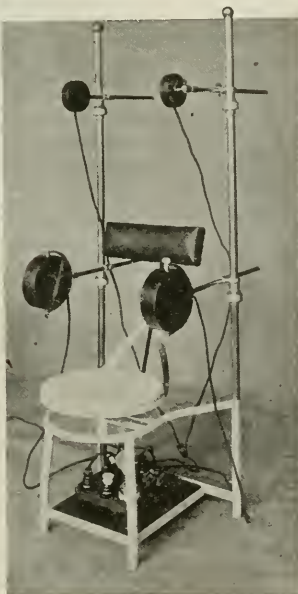


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They are distinguished by certain well defined characteristics, their solutions are dichroic i.e. they appear of different colors in reflected and transmitted light and carry an "electric" charge which may be positive or negative, a charge which is readily dissipated if the colloid is unprotected.

Our present knowledge justifies the assertion that matter in colloid form is dynamic, the non-colloid static, the colloid represents life, the non-colloid death, the colloid state is essential to life. The cytoplasm is a semifluid substance largely composed of proteins and lipoids in a state of colloid solution. Oswald writes that "all life processes take place in a colloidal system." Searle states "before a drug can exert its full therapeutic value it must be converted into the ionized or colloidal state." The influence of colloids on the organism are as marvelous as their condition and composition, their remarkable motor activities—Brownian movement, their enormous surface area, their isotonicity and solubility all render it evident that dangerous reactions to drug stimulation when non-colloids are used, cannot occur under colloids. The colloid is infinitely more amenable to control.

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| COLLOIDAL IRON<br><b>FERROCOL</b><br>Contains 25 per cent<br>Ferric Hydrate            | In 10 gram vials Dose 1 to 5 grs. ....\$1.00<br>10 per cent Sol 25 mls. ....\$1.50<br>For intravenous use. Dose 1 to 2 mls ( $1\frac{1}{2}$ to 3 grs.).<br>Vitacol Per doz. 8 ozs. ....\$10.00<br>Aromatic solution. Each dram contains 1 gr. colloidal Iron with vitamins "A" and "B," Lecithin, peptones and albumoses. |

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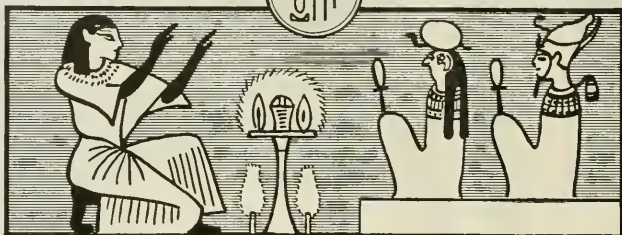
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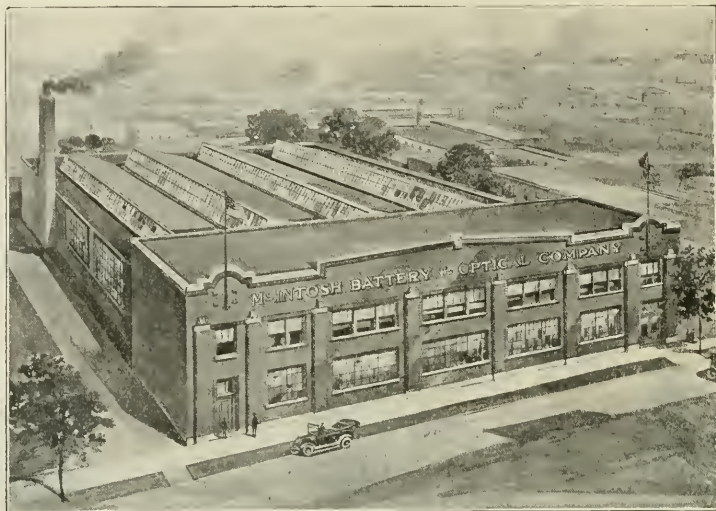
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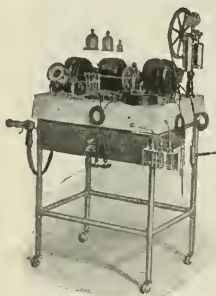
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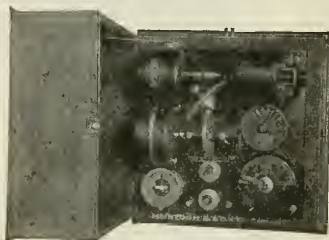
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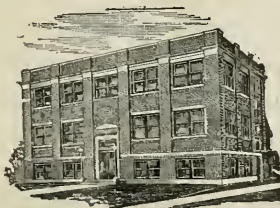
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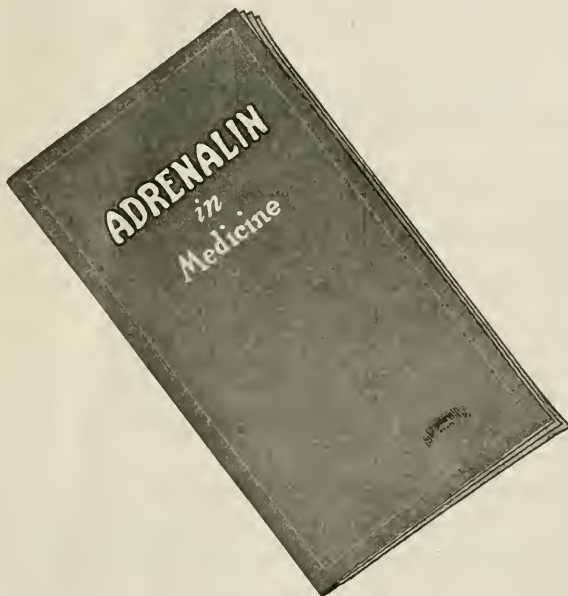
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VOL. CXIII, No. 10.

NEW YORK, WEDNESDAY, MARCH 16, 1921.

WHOLE No. 2205.

### Telangiectases of the Face and Mucous Membranes of Nose and Throat Associated with Severe Epistaxis

#### *New Form of Treatment of Nasal Bleeding\**

By WOLFF FREUDENTHAL, M.D.,  
New York.

Ever since Babbington, in 1865, published a case of recurring epistaxis due to telangiectasia of the skin and mucous membranes, similar reports have come from many scientific centres. But the total number of reported cases is still small enough to warrant the presentation of this case, which is interesting from several points of view.

Although the etiology of this class of cases is still as obscure as it ever was, one thing is positive, viz., the hereditary factor. In almost all the reports the histories have been followed through several generations, and the same symptoms, especially recurring epistaxis, observed in each generation. Thus Babbington made this observation in a family for three generations, and Legg, Chiari and others noticed similar conditions. Very exhaustive is an article by Walter R. Steiner on Hereditary Hemorrhagic Telangiectasia (1). Steiner had seen three such families, and gives their histories, as well as those recorded by several other authors. In the first of these families, consisting of twenty-one members, recurring hemorrhages were noticed in five persons belonging to five generations. In the second family this happened in three members for two generations, and in the third family for three generations.

The disease manifests itself in localized dilations of capillaries and venules, forming, as stated by Hanes, distinct groups of telangiectases, which occur especially on the skin of the face, nasal and buccal mucous membranes, and give rise to profuse hemorrhage, either spontaneously or as the result of trauma. Microscopically a developmental defect has been found (Steiner) in the dilated capillaries, as the elastic and muscle fibres appear to be wanting. The capillaries, consequently, are very prone to produce hemorrhages by their rupture. Clinically, syphilis, chronic plumbism, hyperthyroidism and nephritis have been found to be causative factors of cardiovascular degenerative conditions, which again lead to the formation of telangiectases all over the body. In how far these conditions had

any bearing upon my case will be explained later on.

CASE.—A. N., fifty-five years of age, a cloak finisher, was born in Rumania and had been sixteen years in the United States. His father died at seventy-five from old age, his mother at forty-five, probably from a cardionephritic condition. She suffered greatly from nosebleed. One brother died at the age of fifty-six in the postoperative stage of a hemorrhoidectomy. For several years before his death this brother bled from the nose rather freely. One sister, living and well, bleeds occasionally. Another sister is in Europe. There was no history of diabetes, cancer or alcoholism.

The patient himself had had measles, malaria for several summers between the ages of seven and ten, facial erysipelas, influenza and pneumonia four years ago. For the last twelve years he had suffered from epistaxis, which became worse during the past four years, that is, since his attack of pneumonia. He had been married thirty-one years. His first wife was dead. She had been pregnant six times, miscarried twice, had one stillbirth, and two babies died in infancy. His second wife was living and well; five children; no miscarriage.

From this history one can readily recognize the hereditary element in this disease. The patient's mother and, as far as is known, one brother and one sister, suffered from recurring epistaxis, and undoubtedly there was the same condition in all these cases. But let us continue with the patient's history.

On admission it was found that there were small angiomas all over the body. Some of these were not larger than a pinhead, while others were as big as a pea. Such telangiectases were seen all over the face, and one in particular on the right side of the septum. Others were upon and under the tongue, on different parts of the soft palate, etc.

The patient was seen by Dr. Hauswirth, Dr. B. S. Oppenheimer, Dr. Laporte, and Dr. Harlow C. Brooks, consecutively. Their diagnosis was: Multiple angiomas, secondary anemia, chronic nephritis and myocarditis. These gentlemen had charge of the patient at the Montefiore Hospital as far as the

\* Read before the Metropolitan Medical Society, November 30, 1920.

medical aspect of the case was concerned. Röntgen pictures were taken by Dr. Scholz. Examination of the accessory sinuses of the nose, by the way, was negative, but of special interest were the findings in his legs. They showed marked irregular thickening of the corticalis along the outer aspect of the middle of the right tibial shaft. A similar condition was present in the left tibia, although to a much less degree. The skull showed a few localized areas of bone absorption throughout the upper part of the cranium, otherwise no definite evidence of abnormality.

These x ray findings, together with the personal history of his first wife, were so strongly suggestive of lues that Dr. Hauswirth made that diagnosis, to which he adheres. Wassermann tests made repeatedly were always negative. We have, therefore, before us a case of multiple telangiectases all over the body, affecting the skin and mucous membranes of nose and throat, causing epistaxis of a dangerous character, together with syphilis, chronic nephritis, and myocarditis.

I, of course, was especially interested in the epistaxis. In the beginning of the disease and for years afterward this occurred only once every month. But since his attack of pneumonia, four years ago, epistaxis has occurred several times a week. It lasts from ten to thirty minutes. Occasionally it is so profuse that the blood runs down his throat so rapidly that he is unable to expectorate it. He has to drink it, as he says. Is that perhaps one of the reasons that he is still alive? As soon as the patient was transferred to the throat department of Montefiore Home the writer tried every conceivable means to stop the bleeding. Occasionally we thought we had it under control, when very soon it would start again, just as bad or worse than ever.

At the beginning of our treatment, knowing that there was an atrophic condition present in the nose, we tried to soften the mucous membrane with an oily spray and then apply a tampon saturated with ichthyol. After that, astringents were applied, nitrate of silver and trichloroacetic acid. For several weeks we were under the impression that the latter application had done the work, because the bleeding was very slight as compared with the former hemorrhages. However, it started again and the galvanocautery was applied, which apparently had a bad effect, as he bled more than before. This occurred three times, when the galvanocautery was given up definitely. Finally the injection of hot water was recommended, but it was impossible to make use of it in this case for the following reason: The septum was deviated toward the left side and the telangiectasis that was doing all the harm was located just in the angle of the curvature on the right side. Besides there was a spur on the right side, which made it more difficult to reach the angioma by any submucous injection. In the meantime the patient had lost ground considerably, and I proposed to him lifting up the entire mucosa of the septum on the right side and placing tampons between it and the septum. The patient, however, did not care to submit to this procedure, and I did not urge the matter too much, as the operation might have been attended with a great loss of blood, perhaps more than he

could afford to lose. The only thing that gives some relief to the patient now is thromboplastin, which he himself applies to the nose on a pledget of cotton.

The last attempt we have made so far was with sodium citrate. Dr. Harold Neuhof had read a paper on the intravenous injection of sodium citrate (2), and I thought it worth while to give this method a trial. Dr. Neuhof was good enough to be present at the first injection, which was given by one of his assistants on December 7, 1920, twenty c. c. of thirty per cent. sodium citrate solution being administered intravenously. It took fifteen minutes to inject the fluid, as the idea was to make these injections very slowly. The coagulation time directly before the injection was sixteen minutes. At 4:35 p. m., that is, twenty minutes after injection, it was eight minutes, and at 7:15 p. m., or three hours after injection, it was 1.5 minute. No bleeding occurred during the following night. On December 8, 1920, the coagulation time at 11 a. m., or nineteen hours after injection, was 2.5 minutes, and at 7 p. m., or twenty-seven hours after injection, 2.5 minutes. The patient lost his average amount of blood during the following night. On December 9, 1920, the coagulation at 11 a. m., or forty-three hours after injection, was 7.5 minutes. December 10, 1920, the patient bled moderately during the preceding night. He refused further drawing of blood for coagulation tests. On December 14, 1920, at 10:15 p. m., the patient had a very profuse epistaxis, losing about a quart of blood. He was collapsing, and as an emergency measure Dr. Alexander G. Davidson, of the house staff, injected again intravenously twenty c. c. of a thirty per cent. solution of sodium citrate. The coagulation time before injection was eight to nine minutes. The bleeding had ceased before the beginning of the injection, which was used with the object of preventing a repetition of the hemorrhage. On December 15, 1920, there had been no bleeding since the previous night. Coagulation time at 1:30 p. m., i. e., fourteen and a half hours after injection, nine minutes. Since that time the patient has been lingering on and refusing any kind of medication.

This case was interesting to us because it gave us the chance to study the effect of intravenous injections of sodium citrate. Although no definite improvement of the nasal hemorrhages could be noted, yet the facts brought out by Neuhof and Hirshfeld as to the coagulation time of the blood are of such value that the method should be tested in other severe hemorrhages, especially in those occurring after tonsillectomy, etc. The change in the coagulation time of the blood in our case was remarkable, and it was noticed each time an injection was made. Thus, for example, at the very first trial the coagulation time before the injection was sixteen minutes. Three hours later it had gradually come down to only 1.5 minute. The effect was similar in the following attempts. There is one precaution I should like to emphasize, and one that should never be forgotten: that is, the injection of sodium citrate is to be made very slowly. The fact established by the authors "that sodium citrate is a very dangerous drug when injected intravenously without observing the precautions," i. e., to administer it very slowly and intermittently, should be a guide for everyone doing that work.

In this respect sodium citrate may be compared to another very useful drug, adrenalin. I have pointed out the great danger of injecting adrenalin rapidly into places from which it can be easily and quickly carried to the central nervous system by means of the lymphatics or veins. The mucosa of the nasal septum and its vicinity are especially dangerous localities for the rhinologist. Immediate death may

ensue, and has occurred in such cases, and it is our duty to guard the patient against this danger.

## REFERENCES.

1. STEINER, WALTER R.: Hereditary Hemorrhagic Teleangiectasia, *Archives of Internal Medicine*, 1917, p. 194.
2. NEUHOF, HAROLD, and HIRSHFELD, SAMUEL: The Slow Intravenous Administration of Large Doses of Sodium Citrate, *NEW YORK MEDICAL JOURNAL*, January 15, 1921.

24 WEST EIGHTY-EIGHTH STREET.

## Stenosis of the Esophagus\*

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Except as a matter of personal interest and investigation, there is little excuse for the presentation of a paper of this character, as most of us are familiar with the writings of Jackson, Mosher, and Johnson. To add anything to their works is indeed a task. However, it is with the hope that your attention may again be called to the various points contained in their valuable contributions, and without claim to anything particularly original, that I present this paper.

## EMBRYOLOGY.

The esophagus is developed from the short piece vorderdarm between the pharynx and the stomach. During the fourth week it begins to lengthen out, and by the end of the fifth has become a cylindrical tube of considerable length. As regards its further history, we have little information. Minot observed that during the fourth to sixth month it has usually four well marked ridges formed by its mucous membrane, and that below the larynx these ridges are so arranged as to give the cavity of the esophagus as seen in cross sections the outline of a Greek cross, which was observed by Kolliker. At four months the inner circular coat and the outer longitudinal coat are clearly differentiated.

The epithelium of the esophagus at four months consists of numerous layers of clear cells, but at certain points some of the cells at the free surface have a granular protoplasmic appearance, a somewhat cylindrical form, and bear a crown of cilia. The presence of cilia in the human embryo of eighteen to thirty-two weeks was discovered by E. Neuman.

Balfour records that in shark embryos the cavity of the esophagus is entirely obliterated about the time the fourth gill cleft is formed, and so remains for a long time; the obliteration is effected by the growth of the entodermal epithelium. That the entodermal canal is for a time in teleost embryos a solid cord, has already been stated, and accordingly we find in them the esophagus without a lumen during certain stages. De Meuron states that the obliteration can be observed in anura just after the larva hatches; in lizards, and in the chick embryo of five and a half days—in lizards the obliteration is complete. W. Opitz states that part of the lumen

is closed in the human embryo, as in the shark and other lower forms, and concludes that the amniotic fluid cannot be swallowed by the fetus.

## ANATOMY.

The esophagus, or gullet, is a muscular canal about twenty-three cm. in length, its walls continuous above with the pharynx, and below blending with those of the stomach. Its upper end is opposite the upper border of the cricoid cartilage, or opposite the intervertebral disc between the fifth and sixth vertebrae. It descends along the front of the spine through the posterior mediastinum, passes through the diaphragm and, entering the abdomen, terminates at the cardiac orifice of the stomach opposite the ninth dorsal vertebra. The general direction is vertical, but it presents three slight curvatures in its course. At its commencement it is placed in the median line, but inclines to the left to the root of the neck, where it gradually passes to the median line to deviate toward the left and anteriorly to its opening in the diaphragm. It also presents an anterioposterior flexure corresponding to the curvature of the cervical and thoracic portions of the spine.

The esophagus is the narrowest part of the alimentary canal, being most constricted at its beginning and where it passes through the diaphragm. This description, while correct for most cases, may not entirely apply, as in some instances we are able to obtain a view from the opening almost to the cardia in a straight line, while in others the variation from the above may be slightly toward the more tortuous.

Killian first called attention to the fact that the tonic sphincterlike occlusion of the superior extremity of the esophagus is confined to the region of the lower border of the cricoid cartilage where the lowest transverse bundle of fibres of the inferior constrictor of the pharynx forms a lip shaped prominence on the posterior wall. An idea of the sphincterlike action of this muscle can only be obtained endoscopically in the living subject. It represents the lower limit of the pharynx and the upper end of the esophagus, and is supported in front by the cricoid plate and posteriorly by the vertebral column, to which it is attached by the pretracheal and prevertebral fascia. Laterally we find the thyroid gland.

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Mosher calls attention to the thinning of the fibres at the lower border, leaving a triangular area below this fold, and, further, calls attention to the similarity between the projection of this inferior constrictor and the superior constrictor projection in the nasopharynx, forming Passavant's fold.

While the cervical portion lies close to the spine, as does also the superior thoracic portion in its close relation to the posterior mediastinum, the lower thoracic passes in front of the aorta, which separates it from the spine.

#### STRUCTURE.

Three coats are described: an external muscular, middle or areolar, and internal or mucous.

The muscular coat is composed of two planes of fibres of considerable thickness, an external longitudinal and an internal circular. The longitudinal fibres are arranged at the upper end in three bundles. The anterior bundle is attached to the cricoid plate. The lateral bundles are continuous with the fibres of the inferior constrictor; as they descend they blend together and form a uniform layer, completely covering the tube.

The circular fibres are continuous with those of the inferior constrictor, while their direction is transverse in the upper and lower portions of the tube. They run obliquely in the central portion. Cunningham describes accessory strips of muscle fibres passing between the esophagus and pleura where it covers the thoracic aorta or the root of the left bronchus, the back of the pericardium, or more rarely the corner of the mediastinum, and still more rarely, other accessory fibres. The muscular fibres in the upper part of the esophagus are of a red color and consist chiefly of the striped variety, but lower down are entirely nonstriped fibres. The areolar coat is very thin and simply connects the mucous and muscular coats. The mucous coat is thick and of a reddish color in the upper portion, fading to a pale pink below. It is disposed in longitudinal folds which disappear on distention of the tube. Its surface is studded with minute papillae and is covered with a thick layer of stratified pavement epithelium. Beneath the mucous and next to the areolar coat is a layer of longitudinally arranged, nonstriped muscular fibres. Very few of these are found at the beginning, but in the lower part of the tube they are found in large numbers.

Small compound racemose glands are found throughout the whole length of the tube in the submucous tissue, opening by long ducts. They are especially numerous around the cardiac opening.

#### BLOOD SUPPLY.

Very little can be found regarding the blood-vessels in our textbooks on anatomy, but the upper portion is supplied by branches from the ascending pharyngeal vessels, which anastomose with branches received from the aorta. These latter branches, which apparently are quite numerous, supply the middle portion and anastomose with the gastric artery, which supplies the lower end and which passes to the left side of the cardiac orifice.

#### LYMPHATICS.

The lymphatics of the esophagus form a plexus around the tube, traverse the glands of the posterior

mediastinum, and communicate with the deep lymphatics at the root of the lungs, terminating in the thoracic duct.

#### MOBILITY.

The esophagus seems to be comparatively fixed as far as lateral movements are concerned, at its upper end and where it passes through the diaphragm. Jackson has proved that the upper portion may be moved several centimetres, and many workers have observed wide movement under complete anesthesia.

#### LENGTH.

The length of the esophagus, as stated before, is about twenty-three cm., but this is variously given by different authors, depending upon the age of the patient, seven to twenty-five cm. It seems that these measurements are not as important as the measurement from the teeth to the bifurcation, and from the teeth to the cardia, as these measurements mean more to the operator. The distance from the incisors to the bifurcation of the trachea is from twenty-four to twenty-six cm. in the adult, the lower figure being for women and the higher for men. Mosher gives the length of the esophagus from the incisor teeth to the cardia the wide variation of thirty-six to fifty-nine cm. in men, and thirty-two to forty-one cm. in women.

#### DIAMETER.

While the esophagus is smaller in diameter than any other portion of the alimentary canal, it varies in size in different portions, being smallest at the upper opening. It has, however, three other points of constriction, the second being where it passes behind the arch of the aorta when it is compressed between the aorta and the spine; third, where it passes behind the left bronchus at the level of the fifth thoracic vertebra, and, last, where it passes through the diaphragm. Not being supplied with cartilaginous rings, like the trachea, it collapses on itself, leaving its smallest diameter from before, backward, and, viewed from above, simply presents a slitlike opening.

#### DISTENSIBILITY.

All constrictions of the esophagus are dilatable. The superior or cricoid is less so than the others. The normal esophageal wall has been proved by Jackson to stretch two centimetres without rupture. The lumen of the esophagus increases on inspiration and decreases on expiration. This is found to be of distinct advantage in passing tubes. The following are Mosher's tables compiled from Stark:

#### DIAMETERS OF THE ESOPHAGUS AT THE FOUR CONSTRICTIONS.

| Constriction. | Diameter.                                                   | Vertebra.       |
|---------------|-------------------------------------------------------------|-----------------|
| Cricoid       | Transverse 23 mm. (1 in.)<br>Anteroposterior 17 mm. (¾ in.) | Sixth cervical  |
| Aortic        | Transverse 24 mm. (1 in.)<br>Anteroposterior 19 mm. (¾ in.) | Fourth thoracic |
| Left Bronchus | Transverse 23 mm. (1 in.)<br>Anteroposterior 17 mm. (¾ in.) | Fifth thoracic  |
| Diaphragm     | Transverse 23 mm. (1 in.)                                   | Tenth thoracic  |

*Length of the esophagus at different ages.*

| Teeth to cricoid. |                 | To bifurcation.            |          |
|-------------------|-----------------|----------------------------|----------|
| Birth             | 7 cm. (2¾ in.)  | 12 cm. (4¾ in.)            |          |
| 1 year            | 10 cm. (4 in.)  | 14 cm. (5½ in.)            |          |
| 2 years           | 10 cm. (4 in.)  | 15 cm. (6 in.)             |          |
| 5 years           | 10 cm. (4 in.)  | 17 cm. (6¾ in.)            |          |
| 10 years          | 10 cm. (4 in.)  | 18 cm. (7 in.)             |          |
| 15 years          | 14 cm. (5½ in.) | 23 cm. (9 in.)             |          |
| Adult             | 15 cm. (6 in.)  | 26 cm. (10¼ in.)           |          |
| To cardia.        |                 | Length of whole esophagus. |          |
| 18 cm.            | (6¾ in.)        | 10 cm.                     | (4 in.)  |
| 22 cm.            | (8¾ in.)        | 12 cm.                     | (4¾ in.) |
| 23 cm.            | (9 in.)         | 12 cm.                     | (5⅛ in.) |
| 26 cm.            | (10¼ in.)       | 16 cm.                     | (6⅝ in.) |
| 28 cm.            | (11 in.)        | 18 cm.                     | (7 in.)  |
| 33 cm.            | (13 in.)        | 19 cm.                     | (7½ in.) |
| 40 cm.            | (15½ in.)       | 25 cm.                     | (10 in.) |

For memorizing the length of the esophagus at different ages, the following approximate figures are given:

|          |                 |
|----------|-----------------|
| Birth    | 7 in.           |
| 5 years  | 10 in.          |
| 15 years | 13 in.          |
| 25 years | 16 in. (Stark.) |

Add three inches for every five years.

*Diameter of tubes for different ages.*

|                    |                  |
|--------------------|------------------|
| To 8 years         | 9 mm.            |
| From 9 to 15 years | 11 mm.           |
| From 17 years      | 12 to 14 mm.     |
| Adults             | 14 mm. (Average) |

The esophagus begins six inches from the incisor teeth, back of the cricoid cartilage at the sixth cervical vertebra. It is ten inches long and goes through the diaphragm at the tenth thoracic vertebra, sixteen inches from the teeth. It is crossed by the arch of the aorta back of the middle of the first piece of the sternum, ten inches from the teeth. The measurements to be remembered in connection with it are, then, six and ten.

## STENOSIS.

Strictures of the esophagus, like foreign bodies, are found most frequently in the upper third. The theory of Jackson, that this is due to spasm, seems the most reasonable. Why we should have a greater number of carcinomas in the lower portion may be due to the fact that the irritation, if such is the cause, is not so intense, and extends over a long period. The passing of the esophagoscope in the case of stricture is not different from that employed in cases of foreign bodies.

The normal esophagus appears through the esophagoscope to be bright red or pink, varying in different individuals, but appearing lighter on good illumination than when the tube is poorly lighted. When the membrane has been traumatized, the color varies from deep red to grayish white, depending on whether the membrane has become edematous. The appearance will vary somewhat according to the size of the tube employed, as with a small tube, on account of the folds of mucous membrane, it will be somewhat darker than when the large tube is used, which stretches and blanches the mucous membrane. While we do not fear the passing over and beyond a foreign body with a large tube, we must be extremely careful, in the case of stricture, that the large tube does not dilate the esophagus to such an extent as to produce rupture. The tube should always, where possible, be passed so that the examiner can see ahead of it and be able to see the lumen before advancing the

tube. Ballooning the esophagus by means of a rubber bulb attached to the Mosher tube has been found valuable in my hands.

As interference with physiological action is more important in making a diagnosis in case of stricture than in foreign body, a few words as to the physiology of the esophagus will not be amiss. The office of the esophagus is to carry food from the buccopharyngeal cavity to the stomach by the act of swallowing. This act is divided into two phases, the buccopharyngeal and the esophageal phase. The first is voluntary and consists in movements of the tongue, floor of the mouth, soft palate, the hyoid bone, the larynx, and of contraction of the pharyngeal constrictors, while the esophageal, also a peristalsis, is an involuntary act. The time taken for the first phase is estimated at three fourths of a second, while the second is estimated at six seconds. It is stated by Mosher and others that peristalsis is three times as rapid in the striated third of the esophagus as in the lower two thirds. This is important as throwing light on the slow progress of the bismuth bolus used in connection with fluoroscopic these cases, and the repeated attempts of the patient to start another peristaltic wave.

## ANOMALIES.

The most frequent malformation of the esophagus is obliteration. Van Cnyk in 1824 delivered a child which died on the third day from malnutrition. At postmortem it was found that the inferior two inches of the esophagus was merely a ligamentous cord. Poro describes a case of congenital obliteration of the esophagus which ended in a cecal pouch about one inch below the inferior portion of the glottis, and from this point to the stomach measured only one inch. There was a communication with the trachea. Brentano describes the case of an infant which died ten days after birth, whose esophagus was divided into two portions, one opening into a bronchus and the other into a cul de sac. A case of duplication is described by Blasius. Grasling saw a case of dilatation resembling a bird's crop.

Stenosis of the esophagus includes many of the diseased conditions of this organ. We may classify esophageal stenosis as primary and secondary. Primary stenosis includes inflammatory thickenings due to infection or trauma, or edema following either. Secondary stenosis includes cicatricial contraction following ulcers or trauma, new growths, either intrinsic or extrinsic, pressure from without by new growths, hypertrophies, aneurysm, or abscess.

Primary stenosis may be simulated by foreign body and without history may be difficult to diagnose. Contrary to foreign body, the diagnosis of stenosis is usually made before the patient consults an endoscopist. Foreign bodies are usually unsuspected, while the history is usually sufficient to make a diagnosis of stenosis, while in many cases an attempt to pass a stomach tube has already been made. In all other conditions with which this paper deals, endoscopic examination, if performed early, may be of great value, both for purposes of diagnosis and treatment.

Fluoroscopic examination may be used to locate the position of a foreign body or its extent before endoscopic methods are used, or during the passage

of the tube. If used before, the barium meal is used in conjunction, but if used in conjunction with tube, either dilators which obstruct the light, or probes, can be used to advantage. The great majority of our cases do not require this help, but it is of value in many, when it is not absolutely necessary.

Dilatation, once the diagnosis is made, depends upon whether the condition is one which will be improved by mechanical dilatation, or whether other means are to be used.

Those cases without anatomical change in which there are troublesome spasms require great patience and constant observation, as there may be a change not visible to the eye. Another class of cases which may give confusing symptoms is esophageal varix. Observation of this later may call attention to abdominal organs, especially the spleen and liver, disease of which may interfere with circulation in the lower part of the esophagus.

Simple annular constrictions are easily dilated, if not of too long standing, by Jackson's flexible dilators. Constrictions of some length may require the use of Mosher's dilator on some portions, and the use of Plummer's graduated dilators. Dilating through the esophagus is most satisfactory and is less dangerous.

Malignant tumors of the esophagus are treated successfully by radium applied through the esophagoscope, for in no other way can we be absolutely sure of reaching the diseased area, not even by using the fluoroscope.

Deep röntgen rays are of value in controlling pain. Dilatation of malignant structures should not be done. However, one may have a simple cicatricial stricture in the same esophagus, such as I have seen, and this may be dilated without harm. Any unnecessary manipulation of a malignant growth is inadvisable because of the danger of producing metastasis.

CASE I.—G., a dentist who had been a patient for years, consulted me on May 21, 1919, on account of a difficulty in swallowing which had extended over a period of several weeks. He came to Colorado for pulmonary tuberculosis ten years ago, but had apparently recovered and was able to follow his profession for the last eight years. He had been a very heavy drinker for years. The Wassermann test, as well as the rest of the history, was negative.

I esophagoscoped him under ether May 26, 1919, and found an ulcerated area one by two cm. on the anterior and right wall at cricoid constriction which appeared to be a simple irritative ulcer. Another ulcer or several ulcers surrounded by cicatricial tissue showed a beginning about five cm. below the aortic constriction. The tube, a Mosher No. 3, was passed by the upper ulceration, which was painted with a three per cent. tincture of iodine, with little difficulty, but could not pass the second, although the smallest Jackson flexible bougie passed easily. While this did appear to be of the same character as the superior, I did not feel justified in removing a section, and contented myself with thorough swabbing with iodine, and returned the patient to bed.

The patient was greatly relieved for four days, when spasms returned with pain. Dilatation of

upper constriction at intervals relieved, but after dilating lower two or three times it proved too painful and was not persisted in.

Under ether, August 2nd, he was esophagoscoped and the upper ulcer was found entirely healed, while some healing had taken place in the lower with resulting scar tissue, to such an extent that the smallest Jackson dilator would not pass. Gastrotomy was advised, but the consultant disagreed.

The reaction was severe for three days, after which deep röntgen rays were used at intervals to relieve spasms and pain.

Shortly after this he consulted a surgeon, who promised to use radium, but for some reason did not use it. Radium was subsequently used, but too late to be of value. It was applied by means of a stiff bougie, with the aid of the fluoroscope, but as to the dose and time of application I am not informed.

#### X RAY REPORT.

By Frank B. Stephenson, M. D.

Report on the case of Dr. W. O. G., referred to me May 21, for x ray examination of the esophagus: The first several boluses of viscid medium proceeded to the cardiac orifice in a normal manner where a temporary obstruction occurred, which was relieved by gradual expulsive efforts of the esophagus. Following this the patient experienced a sense of discomfort beneath the sternum, and part of the medium swallowed subsequently collected in the esophagus above an apparent constriction, situated at about the level of the bifurcation of the trachea. The constriction was not ringlike, but gave more the appearance of an organic defect. The medium was present and the picture unchanged for over half an hour. A two hour plate showed the esophagus clear with no remnants of barium present. This phenomenon of the apparently free passage of the first few mouthfuls, with spasm occurring subsequently, was observed at two examinations. There was no evidence of extrinsic pressure. The diagnosis from an x ray point of view would be in favor of an ulcer or an organic stricture rather than reflex spasm.

#### AUTOPSY REPORT.

By Philip Hilkowitz, M. D.

Autopsy held on the body of Dr. W. O. G. Body greatly emaciated. The muscular development was poor. The pericardium was slightly adherent to heart, several whitish spots on the epicardium, nothing noteworthy in walls or valves. The left lung was adherent to the diaphragm; a calcareous nodule the size of a hazel nut was found in the axillary line of the upper lobe; peribronchial lymph nodes enlarged. The esophagus showed scar tissue on the anterior and right lateral wall at the level of cricoid cartilage, and ulceration of posterior wall together with a circular ring of hard tissue encircling the tube about two thirds of its circumference anteriorly to an extent of three cm. of its length, at a level five cm. below the transverse arch of aorta. There was nothing noteworthy in stomach or intestine. The kidneys were pale on section. The spleen was converted entirely into a soft, putrid mass. Microscopic examination of growth in esophagus

revealed a scirrhus carcinoma. Pathological findings: Adhesive pericarditis; healed tuberculosis in left upper lobe; tuberculosis infiltration and cavity formation in right upper lobe; scirrhus carcinoma of esophagus in middle portion; necrosis of spleen; chronic parenchymatous nephritis. Cause of death: Carcinoma of esophagus; necrosis of spleen.

CASE II.—Seen on author's service in Denver City and County Hospital. There had been a constant loss of weight for the last three months, since the patient's tonsils had been removed—forty pounds in all. Since the operation the patient had not been free from pain in right tonsillar fossa. Pain had been especially severe on swallowing, but food had reached the stomach without difficulty.

A diagnosis of tuberculosis was made, and an examination of the larynx asked for. Examination revealed a mass in the region of the lower lobe of right tonsil and base of tongue occluding the superior aperture of the larynx which presented a good view of the larynx with mirror. The cervical lymph nodes were slightly enlarged. A clinical diagnosis of carcinoma was made, although the Wassermann reaction was negative. An examination of the section removed was made by Dr. Helen

Craig. Carcinoma of the prickle cell type was reported. Collapse and death took place within forty-eight hours. Autopsy by Dr. E. R. Mudge showed carcinoma of base of tongue and right wall of pharynx, extending into esophagus, which was only slightly constricted.

CASE III.—Seen in consultation with Dr. Danahey at St. Luke's Hospital. The patient, a pale, emaciated woman of forty-five, had difficult swallowing and regurgitation at times for last three or four weeks. Examination under light ether anesthetic with Mosher No. 4 esophagoscope revealed a small mass immediately above the cardia, with only slight contraction of tube. The condition of the patient did not permit treatment, and death took place about sixty hours later.

Autopsy report by Dr. E. R. Mudge: Carcinoma of esophagus with metastatic mass in cardiac end of stomach.

Dr. L. Frank, who saw this patient four months previously, told me that all symptoms were then referred to the stomach. X ray examination revealed stenosis of the esophagus. Dr. Frank advised gastrostomy, but operation was refused.

METROPOLITAN BUILDING.

## Double Mastoid Operation—Acute Thyroadrenal Exhaustion\*

By JAMES G. CALLISON, M. D.,  
New York.

Mortimer B. was first seen late in May, 1918, at the Manhattan Eye, Ear, Nose and Throat Hospital, when he was treated for a retropharyngeal abscess. He had been suffering from sore throat and recurring furunculosis of the auditory canals for about two months, going from one physician to another, having his throat examined and the furuncles opened. At that time the retropharyngeal abscess was incised and he was sent into the hospital for pharyngeal irrigations. On June 17, 1918, he was again seen, suffering from a recurrence of the furuncles in the auditory canals. Wet packs were used daily at this time until the furuncles healed. About May, 1919, he underwent an adenoid and tonsil operation at some hospital in Boston, but the adenoids were incompletely removed and he remained a mouth breather.

On January 31, 1920, when he was two and a half years old, he was again brought to me with a running nose and a right acute otitis media. The drum was incised under ethyl chloride. Then on February 3d a left acute otitis media developed and that drum was incised. He also underwent myringotomies on February 12th and 16th, that on the former date without anesthesia. In order to provide better nasal and aural drainage, on February 19th the remainder of the adenoids and a post-nasal polyp were removed. This latter, as well as could be determined in the presence of the bleeding,

had its attachment somewhere behind and above the right Eustachian bulb. From February 31st on he was seen every other day, the ears being cleansed, dried and inspected. On every attempt to dry the ears he fought violently, thrashing about with all his strength, and it was not possible to care for the ears without causing great pain. As a result of all this manipulation he became thoroughly afraid of me or anyone whom he suspected of being a doctor. These many infections showed a patient below par so far as his resistance was concerned and, as a result thereof, one with ample reason to be afraid of a doctor.

In spite of every effort, both ears went on to a mastoid infection. Mortimer B. was in the hospital four days prior to a double mastoid operation on February 27th, and nine days thereafter. The hospital surroundings added materially to his fright—the absence from home, the strange surroundings, the presence of the nurses, all contributing their quota. When I entered the room where he was, especially at night after the operation, his pupils dilated, the palpebral fissure widened, the face flushed about the cheeks and over the malar bones, while he became deathly pale about the mouth and screamed continuously: "No more doctor! No more doctor!" a picture of abject, extreme fright. The outer dressings were changed on the third day after the operation, and a complete dressing and removal of the stitches, under general anesthesia, on the fourth day.

\*Read before the New York Academy of Medicine, Section in Otolaryngology, December 10, 1920.

Union of the primary incision was not firm at the time of this full dressing, but no note was taken of the fact at that time. The wounds received daily dressings thereafter while he was in the hospital. For the first four or five days the operative wounds seemed to be doing well, except that they were slow in healing, and there were some clip abscesses in the skin which did not seem inclined to heal. About the eleventh day after the operation I began to feel that the wound was not doing well. From that time on the patient went to pieces very rapidly, so far as the condition of the wound and his mentality were concerned. On the fifteenth day, postoperative, the edges of the wound were everted, angry looking, mouse eaten in appearance, and the wound was breaking down along the whole length of the original incision. The granulations in the mastoid cavity had not begun to cover the exposed bone, and those granulations that had formed were indolent looking and were giving off a glairy, mucuslike exudate. The clip abscesses had extended until they were from three to six millimetres in diameter and most of them communicated through the subcutaneous tissue with each other and with the edge of the broken down primary incision. At the same time the external auditory canal was pouring out pus. Examination of smears from the mastoid wounds showed the presence of a short streptococcus, the same infection as had been present in the aural discharge previous to the operation.

The mental condition of the patient at this time was on a par with the physical condition of the wounds. His muscles were weak, and he seemed to have difficulty in balancing himself, even more than his weakness would account for. It was totally impossible to elicit any facial expression from the child. He cried, but without the facial or vocal expression of pain. Placed on the floor after completing a dressing, he planted his feet far apart, seemed to take no interest in anything about him, and with a vacant stare and his head falling forward, let the thick, mucinous saliva drool from his mouth, totally oblivious to his surroundings. At home he remained continuously in bed or on his mother's lap and moaned "Ah baby!" or screamed "no more doctor!" and took no interest in his toys or the doings of his little companions. At this visit (the fifteenth day) the interior of the wounds, the clip abscesses and all ulcerated areas were painted with ten per cent. nitrate of silver solution, the wound was packed with five per cent. iodoform gauze, and an external ichthyol ointment dressing was put on. On the theory that the patient was suffering from thyroid exhaustion, the syrup of the iodide of iron was prescribed to supply some immediately available iodine to the thyroid gland. The same dressing was repeated on the sixteenth and seventeenth days, and on the latter date he was sent to Dr. Marshall C. Pease for examination, with a suggestion as to my diagnosis of acute thyroid exhaustion. Agreeing with me as to the probable cause of the breakdown, Dr. Pease placed the boy on one tenth of a grain of dried thyroid gland substance three times a day. By the nineteenth day the wounds and the mentality had both begun to show some slight improvement, and the ichthyol and silver

nitrate dressings were both discontinued, the wounds being dressed with a five per cent. iodoform gauze. At this time the wounds had thrown off some of the unhealthy granulations, the mucuslike exudate had disappeared, and the exposed bone had begun to granulate over in places. The clip abscesses also looked healthier and showed some evidence of the initiation of the healing process.

There was a slow, continued improvement from this time till March 26th, twenty-eight days post-operative. On that date it became necessary to send Mortimer B. to a colleague for dressing. In making this change the thyroid gland substance was inadvertently discontinued, and the improvement in the patient's condition also stopped. During the period from March 26th to April 16th this colleague made every possible effort to induce healing, but with practically a total failure. He was compelled to conclude that he was dealing with an improperly performed operation, in which all the necrotic bone had not been removed from the mastoids. When he returned to me on April 18th the patient had a little more discharge from the operative wounds and from the auditory canals than when I had last seen him, and the granulations were slightly more unhealthy. At this time the operative wounds on both sides opened directly into the attic, there was still bone on both sides uncovered with granulations, the clip abscesses on the right side had scabbed over but did not look healthy, on the left side they were still open ulcers.

I immediately began an attempt to destroy the unhealthy granulations in the wounds and to induce the formation of granulations over the exposed bone. The wounds were touched with nitrate of silver, first ten per cent., then twenty-five per cent., and finally a saturated solution. Silver nitrate at first, and then tincture of iodine, were injected into the attic through the external wounds in an attempt to destroy the infection in the middle ear. These solutions were also forced into the external auditory canals and into the pharynx through the Eustachian tube. The dressing was finally completed by a hard pack in the operative wound. By this means I was able partly to destroy the excess of granulations on both sides, but it was not possible to force the formation of granulations over the bare bone present. Syrup of the iodide of iron was again prescribed as a tonic, as this had been discontinued in my absence. This treatment was continued until April 30th, and I was able to secure a slow improvement in the condition of the wounds, mainly in that they were cleaner.

During this time the mother called attention, without any prompting or suggestion, to the presence of Sergent's adrenal white line. This is produced by gently stroking the skin with a blunt, smooth object. Almost immediately the surface stroked turns white and remains so for three or four minutes. While the central part of the area is white, the border is usually very pink. The test is usually made by stroking the abdomen with a fountain pen. In this case it was made by the baby rubbing its face with its hand, the hand leaving a white spot behind. There had been from the middle of March, when the thyroid gland substance was first prescribed, a

very slow but steady improvement in the mental and physical condition of the patient.

On April 30th I prescribed an adenospermin compound. This is a capsule containing thyroid substance, one twelfth of a grain; adrenal substance (total gland), one quarter of a grain; spermin, one grain, as an adjuvant to the adrenal substance, and brain substance for its organic lecithin. These were to be taken one capsule four times a day. At this time, sixty-three days postoperative, the condition of the patient was as follows: Both ears discharging pus from the external auditory canals and the operative wounds; small operative wounds reaching the attic on both sides; bare bone at the bottom of both operative wounds, just posterior to the attic, where the antra had been opened. About twenty millimetres above the operative wound on the left side was an open ulcer eight millimetres in diameter, where the original incision had broken down. On the right side there had been a similar breaking down and ulceration. This had scabbed over, but the healing had stopped there and the scab had never been cast. Mentally, the patient seemed to lack energy and initiative.

In addition to the ear condition, Mortimer B. had a running nose when first brought to me in January. This had persisted and gradually became worse during all the time he was under treatment, at times assuming the form of a membranous rhinitis on anterior rhinoscopy. It was at all times so severe and resistant to treatment that I was of the opinion that he was suffering from an indolent ethmoiditis. This condition had not perceptibly improved when he was placed on the thyro-adrenal combination. From now on it seems best to quote the day to day notes on this patient:

May 2d: Left ear dry; free discharge operative wound. Mercurochrome-220 in external wound and dropped in ears. (From this date on as long as packing was required in the external wounds all the dressings were made by filling the wounds with mercurochrome-220 and packing gauze into the solution. These drops were also used in the external canals.)

May 4th: Left ear still dry; operative wound closed; some pus and considerable bleeding granulations in it when forced open; less discharge from right ear; operative wound cleaner; mentality and general physical condition improving.

May 10th: Still some pus in operative wound of left ear when it was forced open; open ulcer above operative wound of left ear had a good, healthy scab over it; purulent rhinitis improving.

May 12th: Left operative wound not disturbed. Could not find bare bone at bottom of right operative wound, and there was only a slight discharge of pus from the operative wound and from the canal; nasal condition improving; breathed through his nose part of the time. Patient very lively, mentally and physically; was all over the house; helped to arrange layout for the dressing, and insisted on bossing the work of dressing the wound. Sergeant's adrenal white line had disappeared; appetite good; slept well.

May 14th: All packing omitted from the right operative wound.

May 20th: Very slight discharge right ear canal and operative wound; cocoon dressing; mother reported baby slept with mouth closed.

May 26th: Ear and nose both better; no discharge from or membrane in the nose; external operative wound almost dry; packing in auditory canal to dilate collapsed superior canal wall.

June 10th: External sinus persisted; collapse of superior canal wall responded slowly to attempts to dilate by packing.

June 19th: Canal fair opening; mucous discharge; external fistula filled with Beck's bismuth paste.

July 15th: Canal packing discontinued; very slight discharge in middle ear.

August 5th: Small fragment of bone removed from the fundus right auditory canal, evidently a sequestrum from the superior canal wall. This had been acting as a foreign body and keeping up the discharge.

From now on the ear was treated as a case of chronic purulent otitis media, as I have elsewhere outlined (1) and became dry and remained so early in October, two months after the removal of the bone sequestrum.

#### DISCUSSION AND CONCLUSIONS.

While this is a case report, rather than a discussion, I may be permitted to call attention to the well established fact that extreme fright, severe fatigue and strong emotion have a profound effect on the thyroid gland, the suprarenal gland and the central nervous system. That this disorganizing effect, if long continued, will lead to functional exhaustion and the ill effects of the absence of the important internal secretion of the thyroid and suprarenal gland, seems to require no argument. This being granted, it remains only to point out why I believe this patient was suffering from exhaustion of his thyro-adrenal apparatus, and to demonstrate that the final cure was due to the thyro-adrenal preparation.

Some new factor in treatment entered the case on April 30th or May 2d that initiated the physical and mental change in this patient that resulted in the initiation of the healing process. On April 30th the thyro-adrenal preparation was prescribed. On May 2d the use of mercurochrome-220 in dressing the wound was started. That the healing was due to the thyro-adrenal preparation, rather than to the mercurochrome-220, with slight absorption of mercury, I believe to be proved by these facts:

1. The metabolic changes in the bone that retarded or prevented the formation of granulations and healing; the mental deterioration; the muscular weakness, with difficulty in balancing himself and supporting the head on the shoulders, are all of the type to be expected in severe thyroid deficiency. This will practically always be accompanied by suprarenal involvement.

2. Sergeant's adrenal white line, if not absolutely pathognomonic of a high grade of adrenal insufficiency, is at least highly indicative of that condition.

3. At two different times this patient was started to improve by measures directed to his internal secretions—once with a thyroid and once with a thyro-adrenal preparation. The latter showed the more phenomenal results.

4. The improvement in the mental and physical condition of the patient was more marked than the improvement in the condition of the wound, and even antedated it. This improvement was too rapid to be due to the slight amount of mercury that might have been absorbed.

5. Had the improvement in the condition of the patient been due to the antiseptic effects of the mercurochrome-220 with the absorption of the contained mercury, the result would have been first observed in the operative wound, and secondarily in an open ulcer twenty millimetres above the operative wound. As a matter of fact, the ulcer healed first.

6. Some profound systemic alterant must be called on to account for the rapid improvement and cure of a purulent rhinitis that has persisted from

late in January till the first of May, resisting during that time every form of treatment to which it was subjected, and at times becoming a membranous rhinitis in spite of this treatment. I feel confident that this latter result could not be credited to the absorption of the mercury in the mercurochrome-220, but must be placed to the credit of the endocrines administered.

I have formed a very happy opinion as to the usefulness of mercurochrome-220 as a dressing for infected wounds, but I must insist that the final cure of this patient was due to the tonic effects of the thyro-adrenal preparation.

#### REFERENCES.

1. CALLISON, JAMES G.: NEW YORK MEDICAL JOURNAL, June 19, 1920.  
206 EAST SEVENTEENTH STREET.

## Malignant Diseases of the Nose and Throat with Special Reference to Cancer of the Nasal Fossæ, Nasopharynx and Tonsil\*

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Tumors of the upper respiratory tract do not differ from those of other parts of the body. Both the nonmalignant and malignant growths are seen. The exact etiology of the malignant tumor is still a question. Among the theories advanced to account for malignant growths is that of trauma, chronic irritation and Cohenheim's inclusion theory, the latter being the one generally accepted. Kelling has advanced a theory in which he believes certain embryological cells of different animals may become deposited by insects in the circulation and that it is the proliferation of these cells which produces a malignant growth. The parasitic theory of cancer still lacks proof.

The etiology of cancer of the nose is similar to that of cancer in other parts of the body. It is found here also that age is a predisposing factor. Carcinoma and epithelioma are more common after the age of forty-five, while sarcoma is more frequently seen earlier in life. It would seem that chronic irritation is a common etiological factor, in that malignancy is more frequently seen in the anterior nares. This is probably due to the fact that this part of the nose is more subject to irritation. In this connection the discussion as to whether polyps are an etiological factor in cancer of the nose is interesting. It is probable, however, that polyps only act by irritation. Frequently also they are found as a result of the secretions from cancer growth. The majority of authorities hold that polyps have no relation to cancer other than that of a secondary rôle. While polyps would seem to have little influence in the causation of cancer it is well proved that papilloma and adenoma are frequently the forerunners of malignancy. As a matter of fact few cases of cancer of the nose can

be traced to a direct causative factor and, as in cancer of other parts of the body, in the majority of instances we cannot trace their origin.

The pathological forms of malignant tumors found in the nose may be classified under epithelioma, adenocarcinoma and sarcoma. The epithelioma may be divided into the squamous cell, basal cell, and cylindroma. The squamous cell is to be regarded as being very malignant, while the cylindroma has but low malignancy and is considered by many to be curable. The adenocarcinoma is much less frequent than the epithelioma and it seems to be much less malignant and slower in growth than the epithelioma. In the consideration of this subject we shall discuss cancer occurring in the nasal fossa, the nasopharynx and the tonsil.

The symptoms of cancer in the nasal fossa are due largely to the encroachment of the growth upon the nasal passages. There is practically always partial or complete obstruction. The obstruction, however, varies somewhat in different cases. It may be that the closure at first is intermittent, due to engorgement of the vessels. An obstruction of one side which comes on quickly and persists is usually malignant. Naturally any obstruction due to cancer is progressive. The patient usually snores and the closing of the tear duct will cause the eye to water. As the disease progresses hemorrhages and bleeding occur. This bleeding may be spontaneous or as frequently happens results from blowing the nose or from injuries. These hemorrhages may be so profuse as to endanger life. Almost all cases are associated with a secretion and as ulceration progresses it may become purulent and blood stained. In the last stages, with necrosis, the characteristic odor of necrotic tissue is present.

Pain as a symptom is constant and varies somewhat with the location and extent of tumor growth.

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The pain may be localized in various portions of the face. In the late stages it may be constant and severe. The voice may also be affected as a result of obstruction. As the tumor progresses there will often be a deformity of the nose. If the extension of the growth is backward it will give rise to difficulty in swallowing, pain in the ear, and bad taste in the mouth. Cachexia is a late development and death usually occurs long before this stage is reached. Infiltration of the neighboring tissues occurs slowly. Inasmuch as the resistance above is less, the extension occurs most rapidly upward. It is here that the lymph vessels and veins extending to the brain become involved. Extension backward is next in frequency, the tumor involving the tissues of the choanæ and pterygoid fossa. Primary cancer of the nose does not show metastasis except by the extension which commonly occurs through the vessels into the brain. The majority of these nasal fossa cancers are the squamous cell epithelioma and much more rarely the cylindrical type is seen. The basal cell epithelioma is also comparatively frequent. In forty-two cases the origin of the tumor was found to be on the septum six times, inferior turbinate nine, middle turbinate twenty-one, roof of nose three, sphenoid bone two, antrum one. From these figures it will be seen that the origin of malignant growths is most common in the middle turbinate region.

The early diagnosis of malignant growths of the nasal fossa may be difficult. The presence of discharge which often is bloody, together with the persistent obstruction to the nasal passage, would be suggestive of tumor. Examination of the nose would disclose the tumor. This is usually reddish gray and granular in appearance, bleeding easily. The differential diagnosis would include gumma, tuberculosis and foreign body. Syphilis is to be distinguished from cancer by the Wassermann reaction and the test of therapeutics. Furthermore, the syphilitic growth will give rise to an offensive purulent discharge almost from the first. Cancer is distinguished from tuberculosis by the presence of tuberculosis elsewhere and the fact that tuberculosis of the nasal fossa is extremely rare. Foreign bodies in the nose may result in conditions which simulate cancer. The probe would disclose the presence of a foreign body or the removal and examination of the granulating tissue would decide the question. Polyps may somewhat simulate malignant growths in that they often result in obstruction, discharge and bleeding. In such an instance the microscope would clear up the diagnosis. The early diagnosis between sarcoma and carcinoma may be difficult. The sarcoma usually occurs in the young individual, is spherical in shape, and more rapid in growth, involving rapidly the bone with which it comes in contact. The carcinoma is more irregular in shape and its surface ulcerating. If the differential diagnosis cannot be made a section of the tissue will decide it.

The prognosis in these cancers is bad. It is more favorable in the cylindroma. There are few cases of recovery on record. The patient usually dies of meningitis or the development of cerebral or meningeal metastases.

The treatment of these cases is most unpromising. There have been several reported cases in which early diagnosis of the growth on the turbinate was followed by recovery after the removal of the turbinate. It is possible that a better understanding and the more scientific application of radium will result in the cure of a certain number of these patients.

Primary carcinoma of the nasopharynx is more common than carcinoma of the nasal fossa. Its development is more insidious. It may occur at all ages, one author reporting cases seen in patients at thirteen, nineteen, and twenty years of age. Statistics would indicate that it occurs more frequently in males than in females. Its presence does not become manifest as early as similar growths in the nasal fossa. A tumor in the nasal fossa would cause obstruction much earlier than a tumor of the nasopharynx. Furthermore, bleeding would occur much earlier in the exposed tumor of the nasal fossa. As a result cancer of the nasopharynx may develop to a considerable size without giving rise to symptoms attracting the patient's attention. The earlier symptoms of a growth in the nasopharynx may be due to involvement of the branches of the fifth nerve resulting in pain in the ear. A reflex cough is also common and should be regarded with suspicion. The mechanical irritation of the tumor will often give rise to symptoms which are regarded by the patient as being due to catarrh. As the tumor progresses nasal obstruction, hemorrhages and discharge are manifest.

The pain is increased and may be most severe. It may be present in many regions whose nerves are encroached upon by the growth. It is common, therefore, to have pain in the neck, occiput, ear, or the region supplied by the trifacial nerve. Even the opposite side of the head may not be exempt. The patient becomes deaf, the jaws locked, and the neck possibly stiff from the involvement of the vertebral articulation. Speech is necessarily involved. The cranial cavity may be invaded through the cells of the venous channels. The absence of gland metastases is well recognized by all observers. Examination of the nasopharynx may disclose the presence of the tumor even before marked symptoms appear. The appearance of the tumor is practically the same as a similar growth of the nasal fossa.<sup>6</sup> The finger may be an important aid in diagnosis, as the tumor may be felt in the nasopharynx, and any manipulation causes bleeding. The differential diagnosis will lie mainly in distinguishing between syphilis and myxofibroma. The usual test would eliminate syphilis, and microscopic section would determine between malignancy and myxofibroma. The diagnosis between sarcoma and carcinoma must rest upon the more rapid growth and extensive involvement of sarcoma and the use of the microscope.

The prognosis is of course bad. In a few recorded cases the patients have recovered after operation. The inaccessibility, however, of these tumors places surgery at a disadvantage. Death results from intracranial involvement, cachexia and possible respiratory occlusion.

Cancer of throat and tonsil presents a marked contrast to that of cancer of the nasal fossa and nasopharynx. Stuart Low believes that cancer of

the mouth, throat and gullet is increasing at a fearful rate. Four or five such cases may appear in one day in any large metropolitan clinic. It would seem that there is a definite etiological relation between syphilis and cancer of the throat and tonsil. Stuart Low in 1902 had notes of fifteen cases of cancer of the throat in all of which there was syphilis. Since that time he has noted that all others coming under his observation have also shown a syphilitic infection. As to just how syphilis may predispose to cancer is not apparent. It is possible that the disease renders the mucous membrane less resistant. Other predisposing factors noted are buccal sepsis, caries, pyorrhea or gingivitis which result in septic secretions having an irritating influence upon the membrane. In some instances the tonsils are septic. It has been observed that in all cancer patients there is a markedly acid saliva. Males are more frequently affected than females; one observer found that ninety-six per cent. of his cases were in males. Tobacco would seem to be a predisposing factor as practically all victims of cancer of the throat are inveterate smokers. Another factor which would seem of importance is the taking of hot foods. This effect is seen among the Chinese. The women bring the steaming hot rice to their husbands who eat it very hot, while the wives must wait until their lords have finished before they eat. The result is that the food eaten by the women is much cooler and this is said to account for the extreme rarity of cancer of the throat among Chinese women. It has been stated that the majority of the patients with cancer of the throat have always eaten much salt and it is probable that here, too, we have a factor in cancer, in that the salt may dissolve off the protective mucus.

Cancer of the throat and tonsil is usually carcinoma with a tendency to early ulceration. With this ulceration is also associated a peripheral infection, inflammation and edema. This not infrequently leads to a diagnosis of quinsy. The tendencies of these tumors to soften in the centre and discharge a pseudopus adds to the picture of quinsy. The cancer may begin on the tonsils or in the immediate vicinity on the lateral wall of the pharynx. It is often impossible to state definitely the point of origin. The disease may often begin on the uvula, tending to spread over the entire palatin arch. In contradistinction to cancer of the nasopharynx and nasal fossa lymphatic involvement is early. The cancer appears as an uneven mulberry or wartlike growth with a tendency to early ulceration. Frequently the lymph nodes of the opposite side are also involved. As the disease progresses the ulcerating surface becomes large with the tendency to hemorrhage.

Cancer of the tonsil is insidious. Pain is an early symptom usually first noticed in swallowing. As ulceration occurs discharge of pus or blood is common. With the extension of the growth the difficulty and pain in swallowing is greater. In advanced stages swallowing may be impossible. Pain in the ear is almost always seen. This may constitute the principal symptom, which is classified as the otalgic type. With the progressive ulceration and the difficulty in swallowing cachexia appears.

The diagnosis of cancer of the throat is usually easy. Its accessibility makes it possible to secure an early section and the region is easily inspected. The tumor appears at first as a warty growth, reddened and bleeding easily. As the disease progresses the appearance is sufficiently characteristic to make a diagnosis. The differential diagnosis from quinsy will be easily made from the history and by the infiltration of the tumor in the surrounding tissues. The diagnosis between syphilis and cancer is easy, syphilis being established by the Wassermann test and the test of therapeutics. Tuberculosis of the tonsils will rarely enter into the diagnosis, as this condition is extremely rare and there will almost invariably be evidence of involvement of the lungs.

The prognosis is bad. Patients die from starvation, or possibly hemorrhage and infection. Septic pneumonia is a rather frequent terminal event. Edema of the glottis may also suddenly cause death of the patient.

The treatment of cancer of the tonsil must be, as in cancer of other parts of the body, largely prophylactic. The frequency with which cancer of the throat is associated with syphilis should ever be kept in mind. Tobacco users should be warned and only a moderate indulgence should be urged. It is probable that the propaganda for the better care of the teeth may for future generations bear fruit in the decreasing number of cases of cancer. The use of very hot or highly seasoned foods should be warned against and every means should be used to keep the mouth in a healthy condition. The treatment of the growth by surgery is almost useless. Even though the primary growth can be removed, the early lymphatic involvement will result in the progressive development of the tumor. The use of the cautery may possibly prolong life and give a certain amount of relief from the bleeding. The use of radium early gives some promise of help, but here again the early lymphatic metastases will probably give radium but limited value.

#### REFERENCES.

- CARTER: Primary Carcinoma of the Inferior Turbinate with a Report of a Case, *Medical Record*, March 16, 1907.  
KLEMPERER: Cancer of Nasal Fossa, *Ibid*, February 22, 1908.  
THOMSON, ST. CLAIR: Cure of Two Intranasal Tumors, *Lancet*, May 13, 1916.  
JACKSON, CHEVALIER: *Journal A. M. A.*, August 10, 1901.  
OPPKEFFER: *Arch. für Laryngol.*, 1913, V, xxvii, p. 526.  
INGERMANN: *American Journal of Otolaryngology, Rhinology, etc.*, 1903, V, xii, p. 700.  
DARNALL: *Journal A. M. A.*, January 31, 1904.  
HOLMES: *Laryngoscope*, 1908, V, xviii, p. 623.  
ALEXANDER: *Annals of Otolaryngology*, 1914, V, xxiii.  
RIDOUT: *British Medical Journal*, 1914, V, 1, p. 1017.  
GATEWOOD: *Journal A. M. A.*, 1916, V, lxvi, p. 449.  
KELSEY and BROWN: *Annals of Otolaryngology*, 1913, V, xxii, p. 1147.  
COLEY: *Surgical Clinics*, Chicago, 1915, V, 1v, p. 1147.  
STOUT: *Laryngoscope*, 1916, V, xxvi, p. 1075.  
M'COY: *Transactions American Laryngological Society*, 1919.  
LOW, STUART: *Practitioner*, 1917, V, 99, p. 122.  
DICKENSON: *Pennsylvania Medical Journal*, July, 1918.  
KYLE, J. J.: *Diseases of Ear, Nose and Throat*.  
PHILLIPS: *Diseases of Ear, Nose and Throat*.  
KYLE, D. B.: *Diseases of Ear, Nose and Throat*.  
KNIGHT and BRYANT: *Diseases of Ear, Nose and Throat*, Second Edition.

562 DELAWARE AVENUE.

## Fluoroscopic Bronchoscopy, Esophagoscopy, and Gastroscopy\*

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I have selected fluoroscopic tube work for my text with the relation of a few instances in which it was apparently impossible to proceed except for the valuable information and guidance as furnished by fluoroscopic tube work and by the x ray plate. In 1913 I described my first experience of fluoroscopic bronchoscopy consisting of the extraction of a nail low down in one of the terminal bronchi of the stem to the lower lobe on the right side, and this at least was one of the first case reports of this technic. During the last two years I have had several occasions to use this combination for the successful removal of foreign bodies from the lungs, and I have employed it in one esophagus case and in two stomach cases. These form the basis of this report.

The bronchus cases were four in number, all of foreign bodies, long retained, which, as is usual, particularly with metallic substances, had worked their way to as near the periphery as space would permit, and when the final destination was reached had begun the slow destruction of surrounding tissue with abscess formation. Then, Nature's effort to stop this process resulted in a thickly walled abscess cavity being formed which I found in each of the four cases.

CASE I.—A little boy, playing doctor with his little friend, was gagged by the brushing of the posterior pharynx with the head of a millet grass broom which broke off and was insufflated into the trachea and down into the depths of the right bronchus. Procrastination, ill advice, tuberculosis, sepsis, followed in the usual order in such cases, until finally, after two and a half years, it was decided to consult someone who might possibly do something. He was in a state of profound sepsis, with high temperature, emaciation, toxemia, and an abscess between the fifth and eighth ribs in the position represented by the very terminal bronchi from the main stem to the lower lobe of the right lung. The cavity measured nearly three inches in diameter, and the foreign body could not be seen on either the screen or the plate. He was too weak to permit much anesthesia, so we proceeded on the first attempt without it. The bronchus was found to be closed by granulation tissue, but a small trickle of pus could be seen coming from between the papillae at the bottom of the tube. After shrinking by adrenalin, they were bitten away, and, finally, with a small steel wire feeler or probe, I entered the abscess cavity and attempted to dilate the neck of the cavity, using a stout jawed forceps which was introduced closed and extracted opened. By this means, about two ounces of pus was removed by suction, and this was thought sufficient for this sitting.

During the second period I used a smaller tube and the fluoroscope to guide the forceps through what seemed to be three quarters of an inch of granulation tissue to the cavity, and, when it was entered,

the fluoroscope determined the presence of the forceps in the cavity. I then tried the flexible end right angle forceps of Jackson and searched the upper half of the cavity carefully, and finally succeeded in removing what seemed to be about a third of the grass head, and again draining the cavity of pus. After this, the general symptoms improved for a while, but not for long. A third attempt was made to clean the cavity and drain the abscess, but this failed. The child went home, and an external opening was made which removed the remaining two thirds of the grass head, but the sepsis was so pronounced that the little fellow finally died.

CASE II.—A screw had been inhaled four years previously, and, as usually occurs in these cases, the patient finally came under observation. An abscess about two inches in diameter, with fairly thick walls and beginning sepsis, was found. On the first examination the bronchus was found to be entirely closed, but after picking and dilating I finally managed to uncover a path which led into the abscess cavity and I guided it to come in contact with the screw. A small forceps previously made to fit this tube was now inserted, its jaws opened, and these were seen to grasp the foreign body, which I could feel as I took hold of it. We continued to watch the extraction of the tube, screw, and forceps, until the foreign body was finally delivered. This, by the way, is especially advantageous in case the forceps should slip and the body be lost, as it could still be under observation by the fluoroscope. While this did not happen in either case, it has happened before, and can be guarded against in this way.

CASE III.—In the third case an upholstery tack was found in about the same position, worked about the same way, and was successfully removed.

CASE IV.—A wire fence staple in the left bronchus was removed with the aid of the fluoroscope. The staple was point up when the intervening tissue was cut away to permit the removal of the mass. It was thought best to turn the staple in the trachea and bring it out by the blunt end first, so that when it was dislodged and brought into the trachea, constant watch was kept through the fluoroscope until it was turned, grasped, and delivered by its blunt end. One frequently reads of a partial delivery and subsequent loss of a foreign body, and this I have also experienced, so in this case I determined to guard against this occurrence. The staple had been *in situ* nine years and was decidedly corroded, and I was fearful lest I should break it in its removal or leave some fragments behind. The fluoroscope was helpful in determining the entire removal of the mass, and the boy made an uneventful recovery.

CASE V.—A little girl swallowed lye about five years before and in due time had a stricture of the esophagus, which finally closed and necessitated a gastrostomy for feeding, but as the child grew and began to go to school she and her parents became more than anxious to reestablish feeding by the

\* Read at the third annual meeting of the Association of American Peroral Endoscopists, Boston, June, 1920.

normal route. By esophagoscopy an impermeable stricture was found one and a quarter inches below the cricoid. An attempt was made to do a retrograde dilatation by an opening through the stomach, and when the bougie was in place the fluoroscope displayed about an inch separation between the esophagoscope above and the dilator below. Looking at the two points in two diameters, it was thought that they were in a straight line, and an attempt was made to dissect through the stricture. I cut through about an inch of tissue and could not reach the forceps with the knife. As the patient was not doing well, we stopped the procedure for a later session. All went well until the fifth day, when the little girl drank nearly a bottle of coca-cola, and I am not sure if that is all she had had, for her mother, who was with her, could not resist the temptation to feed her, even though everything by mouth was absolutely forbidden. A mediastinitis developed with fluid in the right pleural cavity, and the patient died. We could not secure permission for a postmortem.

CASE VI.—A child, aged two years, swallowed a quarter of a dollar, which slipped into the stomach, where it lay for two weeks. The fluoroscope determined that it was probably nearer the greater curvature but toward the pylorus. A bronchoscope was

passed into the stomach, and after moving the patient on the side and then on the back, we finally placed the tube over the foreign body and removed it.

CASE VII.—This was a baby, in whom we found an open safety pin in the stomach. The same procedure was tried as in the previous case, but after seven minutes' search we were unable to find the pin. All was in readiness to do a gastrostomy, and Dr. Urban Maes removed the pin through the smallest of incisions, and in fifteen minutes the incision closed up and the patient was ready to return to the room. She made an uneventful recovery.

#### SUMMARY.

Fluoroscopic bronchoscopy is of the greatest aid in the successful removal of long retained opaque foreign bodies from the bronchi or abscess cavities, and it likewise helps as a guide to the site of abscess even when the foreign body cannot be seen. It is an aid in selected gastroscopic cases, and I am sure someone will report its successful assistance in re-establishing a pathway in an impermeable stricture of the esophagus in a more favorable case than the one which I have just reported.

634 MAISON BLANCHE BUILDING.

## Six Cases of Foreign Bodies in the Esophagus and Bronchi\*

By CHARLES J. IMPERATORI, M.D.,  
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I present below a detailed report of six cases which are the most interesting of all the cases seen or operated in by endoscopic procedure in my practice since the last meeting of the association.

CASE I.—Collar button in the esophagus. H. F., female, fourteen months old, had been treated for various diseases including pneumonia and whooping cough over a period of nine weeks. The patient was referred to me by Dr. Lasher, of Yonkers, N. Y., who had had the child radiographed. A collar button was located in the esophagus in the region of the third dorsal vertebra. Several attempts were made to remove the collar button by indirect methods, but these failed. The child was brought to the Park Hospital. She presented a typical appearance of water hunger, starvation and complete prostration. General stimulation and feeding by rectum and a Murphy glucose drip were immediately started. The child did not seem to respond to the treatment. The temperature at the time—July 25, 1919, 5 p. m.—and after seven hours of treatment in the hospital was 102°, pulse 140 and respiration 40. It might be mentioned that there was complete aphagia.

It was decided—due to the poor condition—that an attempt of short duration would be made to remove the foreign body. Using a child's size

esophageal speculum of Jackson, the collar button was located in the esophagus about one and a half inches below the cricopharyngeal constriction, firmly embedded in the tissues. That is, the head of the button was embedded in the posterior wall of the larynx and the larger part of the button was in the tissues of the esophagus, the stem of the button being at right angles to the long axis of the esophagus. The radiograph was taken before the endoscopic examination and the attempts by the indirect method had wedged the button in the position seen through the speculum. An attempt of two minutes' duration to dislodge and rotate the button failed. The little patient had practically succumbed and only by vigorous methods of resuscitation resulted in reestablishing breathing.

It was decided to wait twenty-four hours before doing anything further. In the meantime the same general treatment outlined above was carried out. Gastrostomy was suggested, but refused by the parents. The following day, July 26th, the child's condition seeming to be slightly improved, another two minute attempt was made and resulted in the extraction of the button. A Johnson-Jackson laryngoscope was used, and this being but a ten mm. tube, the child breathed better during the procedure. A hook was used to tilt the button and a Mosher alligator forceps used to extract it.

\* Read at the third annual meeting of the Association of American Peroral Endoscopists, Boston, June 1, 1920.

In the extraction, it was necessary because of the size of the button to remove the laryngoscope, forceps and foreign body together. No anesthesia was used. After removal the esophagus was examined. There was a great deal of ulceration of the tissues on the posterior surface of the laryngopharynx and considerable laceration of the esophagus posteriorly. The child survived the removal of the button about ten minutes, apparently dying from respiratory failure. Autopsy was refused.

CASE II.—W. D., aged eight years, male; inspired a nine mm. ball bearing that he had in his mouth. He was brought to Bellevue Hospital. Radiographs showed the ball located in the left lung—and when seen by me it had been impacted for thirty-six hours. There was practically no air entering the left lung. Mainly because of the mental attitude of the patient a general anesthesia was given and the ball located in the left bronchial ramus leading to the superior lobe. Either anesthesia was used. A seven mm. Jackson bronchoscope was used. The Hubbard hook was used to withdraw the ball into the main bronchus; that is, the flat corrugated part of the instrument was used on the ball and a sort of filing motion employed, but making no pressure on the forward stroke. As soon as the ball was in the main bronchus the Bremmings' four pronged forceps was used and the ball, forceps and bronchoscope withdrawn together. The ball was two mm. larger than the outside diameter of the bronchoscope. Time of operation twenty-five minutes. The patient made an uneventful recovery and left the hospital within three days.

CASE III.—A. B., female, aged three years. The patient was referred by Dr. Davis of Tarrytown, N. Y. The child had had laryngeal diphtheria and had been intubated. After six days, the child having recovered, it was decided to extubate it. Repeated attempts by the physician failed. The child was seen at Eastview Hospital, Westchester Co., at midnight, November 2, 1919. There was slight dyspnea—otherwise the child was in good condition. Direct laryngoscopy showed the head of the tube subglottic and considerable edema of the arytenoids. Using a Mosher laryngeal spatula and a Lynah straight intubation forceps, the tube was extracted without any difficulty within a few moments. No anesthetic was used. The child made an uneventful recovery.

CASE IV.—A. E., male, aged fourteen months. Admitted to Bellevue Hospital November 29, 1919. A clinical diagnosis of a foreign body in the bronchus had been made from the history—the child having been playing with some grapes and candy coupled with the sudden onset of dyspnea on November 25th and which was continuous. The physical signs were that of a beginning pneumonic consolidation of the right side. Radiographs were negative for a definite, foreign body shadow. However, Dr. Hirsch, the radiographer of Bellevue Hospital, on examination of the plates, diagnosed the condition definitely as a foreign body—mainly from the flattening of the pleura on the right side. The general condition of the child was bad; tem-

perature 101°, pulse 120, respiration 40. Dyspnea was marked, with considerable epigastric depression on inspiration.

Using a five mm. Jackson bronchoscope, a foreign body was seen in the lower part of the right main bronchus. This was easily removed, but it was necessary to remove the bronchoscope and foreign body together. The foreign body was a branched grape stem; two, one half inch branches from a main stem one quarter inch in length. A small Jackson rotation forceps was used to extract the foreign body. No anesthesia was used. Time eight minutes. The child remained in the same condition and as the dyspnea seemed to be of the respiratory type a tracheotomy was done. Laryngoscopic examination showed slight edema of the vocal cords. The child died twelve hours after the tracheotomy. No autopsy was permitted.

CASE V.—E. M., female, aged twenty-eight years. This patient had made several attempts at suicide and the day she made her third attempt she was taken to the Post-Graduate Hospital, where she was seen by Dr. Douglass and who obtained the history appended below.

Because of the nature of the case she was sent to Bellevue Hospital. Eight hours later when she was admitted to Bellevue Hospital no history could be obtained from her. She was in a condition of semicoma and it was only with great difficulty that she could be aroused.

The following report was given by Dr. Douglass: The patient had been suffering for some time from melancholia. She had made three attempts to end her life; once by breathing gas, again by taking carbolic acid or iodine, I think it was iodine, and then one day she picked up one of her husband's razor blades and in the presence of the family attempted to swallow it.

This occurred on April 1, 1919, and she was seen about thirty-six hours after having swallowed the razor blade.

Fluoroscopic examination showed an opaque object about one and one half by one half inch in size lying apparently in the esophagus at the level of the third to the fifth cervical vertebra. Using a Jackson esophageal speculum and a Mosher alligator forceps the razor blade was removed in the following manner: Passing the instrument down to the edge of the blade and steadying the razor blade with the forceps the end of the instrument was rotated around the sharp edge. The forceps engaged the blade, near the blunt edge. Then the speculum, forceps and blade were removed together. The blade was so brittle that it broke while holding against the speculum after rotating the speculum around the sharp edge. No anesthesia was used. There was no bleeding during or following the operation. Examination of the esophagus in the location where the blade was removed showed some slight traumatization of the mucous membrane. The patient had been admitted to the hospital as a case of encephalitis lethargica plus the foreign body. After removal of the foreign body she was retransferred to the medical wards.

The patient died three days later and autopsy showed a perforation of the esophagus at the third

dorsal vertebra. There was also considerable ulceration of this part of the esophagus. Death was due to pleurisy and mediastinitis.

CASE VI.—S. B., female, aged seven and a half years. Admitted to Bellevue Hospital with a tentative diagnosis of pulmonary tuberculosis. She gave a history of having inspired a tack seven months previously, but the child's parents were told by the attending physician that the child would cough it out if it was in the lung. Another physician was certain she had pulmonary tuberculosis, mainly from the irregular temperature.

When taken to the medical wards she was radiographed and a tack was made out to be the possible cause of her trouble and was located within the left bronchus. On April 3, 1920, without any anesthetic a seven mm. bronchoscope was passed and by manipulation and traction, using the side biting forceps of Jackson, the tack was removed. Endoscopically the tack was in the bronchial rhamus leading to the superior lobe and head down.

Suction aided materially during the operation, as did sponge pumping. The day following the removal of the tack the child's temperature went to 101° F., but this promptly subsided and within three days she left the hospital.

All of the cases seen at Bellevue Hospital were

in the otolaryngological service, of which Dr. C. G. Coakley is director.

#### SUMMARY.

1. There was a mistaken diagnosis in both the collar button case and the case of the upholsterer's tack. Radiographs would have cleared these cases easily.

There was a mistaken diagnosis of encephalitis lethargica when the condition really was sepsis, perforation of the esophagus from the carbolic acid or iodine or some other manipulation the patient did in her attempts at suicide, empyema and esophagitis being the final picture.

2. In the case of the grape stem the diagnosis of a possible foreign body, at least one that was not opaque—from the radiograph, that is from the position of the diaphragm.

3. The usefulness of the Hubbard hook in the ball bearing case.

4. The ease with which extubation can be performed by direct laryngoscopy.

5. The seriousness of the outcome of foreign bodies of vegetable matter in infants and particularly if *in situ* for any length of time.

6. The ease with which five of these patients were operated upon without any anesthesia.

17 EAST THIRTY-EIGHTH STREET.

## Suppurative Submaxillary Adenitis

BY BENJAMIN LIPSHUTZ, M. D.,  
Philadelphia.

The oral cavity and mandibular and maxillary infections as sources of acute general sepsis are now well known and beyond dispute. It is only in recent years that attention has been called to the fact that infections other than acute sepsis may arise from an infectious focus in the mouth. Current literature is replete with numerous studies of the teeth as the underlying cause of focal infections. The infectious focus is not always an acute process, indeed, it is more commonly a chronic lesion and frequently symptomless.

It is not the purpose of this paper, however, to discuss the problem of focal infections, but to call attention to the common occurrence of suppurative submaxillary adenitis which have their origin in quiescent abscesses of the teeth. I have observed, within the past nine months, in the outpatient service of the Mt. Sinai Hospital of Philadelphia twenty-one well marked cases of suppurative submaxillary adenitis following quiescent abscesses of the teeth. The cases were carefully studied and such general diseases as syphilis, typhoid fever, tuberculosis, scarlet fever, measles and leucemia eliminated as possible causative factors. Infection and suppurative of the submaxillary lymph nodes may follow an infectious focus located in the nose, paranasal sinuses, the throat, mastoid process, oral cavity and infections of the face and forehead.

Many of the infectious lesions of the mouth are

of a chronic character, often not noticed by the patient and have existed for a long period without local symptoms. The chronic lesions are the ones which so frequently cause focal infections. An acute alveolar abscess is seldom neglected by patients. The chronic blind abscesses or dental granulomata existing with symptoms so mild that no attention is paid to them, are more dangerous than the violently acute conditions because of their deceptive nature. The processes in the teeth can be compared with a circumscribed osteomyelitis. Bacteria and their toxins may thus be readily carried into the bloodstream or lymphatics. The infection of the lymph nodes in these cases takes place through the lymphatic vessels draining the infected area; and similarly this is one of the modes of distribution of infection in oral focal disease. The following is a brief résumé of the lymphatics of the teeth:

Halle's experiments disclosed the fact that particles passed through the whole pulp and were found in the lymphatic nodes. Schweitzer demonstrated the presence of lymphatic vessels in the dental pulp and periodontal membranes. These experiments have been confirmed by Noyes and Kaeche. The lymph vessels pass out of the mental and infraorbital foramina, run a superficial course following the facial artery and vein and terminate in the large submaxillary lymph nodes. Numerous

anastomoses connect the lymph vessels of the peridental membrane, first, with the neighboring large lymph vessels passing through the bone; secondly, at the inlet of the alveolus with the deep lymphatic network of the gingival submucosa and thirdly, with the lymph vessels accompanying the larger bloodvessels entering and leaving the dental pulp. In the lower jaw they communicate with the lymph vessels which follow the bloodvessels and nerves within the mandibular canal.

The upper jaw lymph pathways enter directly into the deep cervical nodes usually of the same side, but at times cross and enter the lymph nodes of the opposite side. The lymph pathways from the teeth of the upper jaw pass, at least those from the infra-orbital foramina or small secondary openings, to the submaxillary nodes. In the lower jaw the lymph vessels empty into the submaxillary lymph nodes or deep cervical nodes.

The lymph nodes which receive products from the teeth and gums are, first, the suprahyoid glands, which lie between the bellies of the digastric muscle and drain the anterior part of the lower gums and teeth and pass the lymph on to the submaxillary group which are numerous and small. The latter lie in the digastric triangle along the inferior border and ramus of the mandible. Secondly, the superficial cervical lymph nodes which lie along the external jugular vein receive some lymph from the posterior part of the gum. The deep cervical lymph nodes lying along the internal jugular vein indirectly through the submaxillary group receive lymph from structures of the mouth.

The lymph from the upper jaw is received partly by the deep facial glands. They are situated at the side of the pharynx behind the buccinator muscles. Cases of infection of these glands may be mistaken for quinsy, as they are close to and behind the tonsil. The facial glands are further divided according to their location into three groups. First, the inferior maxillary group situated on the external surface of the ramus of the mandible, in front of the masseter muscle, between the facial artery and vein; second, a middle group situated upon the buccinator, one part of which is found not far from the angle of the mouth, between the facial artery and vein; the other near the point where Stenson's duct perforates the buccinator muscle. A third group (malar) is located on the zygomatic process (malar process) of the maxilla or upon the malar bone. The superior and middle groups receive lymphatics from the nose, upper lip, the temple, the eyelids and the cheek, the superior alveolus with its teeth and the tonsils, the pillars of the fauces and the parotid gland. The maxillary glands receive lymphatics from all these locations and also from the lower lip. The facial lymph nodes may be infected from dental caries, more particularly the upper molars. In rare cases the submental lymph nodes are affected from the lower incisors. Clinically, suppuration in the lower lymph nodes is far more common than in these upper ones.

The reaction of the glands varies according to the virulence and character of the invading bacteria. There were twenty-one cases observed, of which eight occurred in adults. The infected nodes were

deep seated, lying along the side of the lower jaw. The local symptoms were those of inflammation and a sensation of tension suggesting a deep suppuration. In the cases occurring in adults the patients complained of stiffness of the jaw and painful deglutition, but the condition was nonfebrile. Redness of the overlying skin was absent in four of the latter cases. The cases observed in children were all accompanied by a marked febrile reaction in addition to the local symptoms. If no suppuration occurs, the glands are not fixed and the overlying skin is not changed. When the adenitis is acute there is more or less pain on movement of the jaw. Fluctuation of the facial glands when present is detected between the two fingers, the one placed within the mouth, the other outside. Suppuration of the facial glands when not interfered with usually evacuates itself through the skin rather than through the mouth. It is well to remember that this type of adenitis is slow and insidious in its development, and in adults the eventuation of suppuration may be accompanied by mild local symptoms only.

A radiographic study of the teeth was carried out in all these cases and revealed a typical apical granuloma or a pus soaked, partially absorbed tooth apex. X ray examination is essential for the successful treatment of this type of adenitis. Mere opening of the abscess without treatment of the teeth delays and prolongs recovery. We have made it a routine practice in the Mt. Sinai Hospital to have radiographs of the teeth taken in all cases of submaxillary, cervical or facial adenitis and if the x ray examination discloses evidence of disease of the teeth they are referred to our dental clinic for the necessary dental treatment.

The entrance of the tubercle bacillus is probably more common than we think. Cantani has reported fifty clinical cases of tuberculous infection of these lymph nodes through the teeth. The history was analogous to the chronic form.

The submaxillary abscesses were opened through a transverse incision over the digastric triangle by Hilton's method and gauze saturated with five per cent. dichloramine-T introduced as drainage. The patients were immediately referred to the dental surgeon for the necessary treatment of the teeth. Cases where the disease has not progressed to the point of suppuration usually subside under proper dental care. The drainage must be efficient and thorough. Continued suppuration results in a destructive osteomyelitis and pathological fracture of the mandible. The type of osteomyelitis occurring in these patients is usually accompanied by mild symptoms only.

#### CONCLUSIONS.

A radiographic study of the teeth should be carried out in all cases of cervical, facial and submaxillary adenitis. The external appearance of the teeth gives unreliable evidence of the existing pathological condition. The cooperation of the dental surgeon is indicated for the successful and expeditious treatment of submaxillary, cervical and facial abscesses which have their origin in dental and periodontal infections.

1007 SPRUCE STREET.

## The Source of Focal Infection Iritis

By CLAUDE G. CRANE, M.D.,  
Brooklyn, N. Y.

Infection in the nasal sinuses may invade the orbital contents in two ways. The direct invasion may be due to the actual breaking down of the bony and soft tissue walls, resulting in orbital infection by contact. The direct invasion, on the other hand, may be without destruction of tissue and due to the passage of the toxins or even the bacteria themselves through the diploic veins and the lymphatic channels which are so abundant in this region. The indirect invasion is through the blood stream and presents the same pathological entity that we have in other well recognized conditions.

Toxic arthritis secondary to focal infection has long been accepted as an authenticated clinical entity. The same may be said of a considerable group of well recognized pathological sequences. Toxic iritis did not find its proper place in the grouping until some time after focal infections and their sequelae were firmly established as scientifically proved conditions.

CASE I.—On November 9, 1913, Miss B., aged forty years, was referred to me by Dr. J., an ophthalmologist, and Dr. R., an internist. The patient was first seen by Dr. J. during an attack of acute iritis, which did not respond to treatment. The following history was elicited:

The patient had had rheumatic fever when she was ten years old. She had enjoyed excellent health until two years ago, at which time her tonsils were operated upon by a specialist and the nose operated upon subsequently on two occasions by the same specialist. The present illness began with an acute iritis involving both eyes. Dr. J. reported as follows: He first saw Miss B. on January 13, 1913, at which time she was having her first attack of iritis. When first seen the right eye only was involved, but subsequently both eyes were affected. The iritis was of a severe plastic type, unusually obstinate, and showing a marked tendency to recur at frequent intervals. The Wassermann test was negative. Knowing that the patient had had her tonsils operated upon, and also had had operative work done inside the nose, he referred her to an internist for further investigation.

An examination of the nose showed the septum to be markedly thickened and deformed, causing nasal obstruction on both sides. A small part of the right inferior turbinate and the right middle turbinate had been removed. There was a mucopurulent discharge under the middle turbinate on both sides. Postnasal examination revealed a similar discharge from both sides. The nasopharynx contained considerable adenoid tissue, which was much inflamed. The mucous membrane of the nasopharynx and the oropharynx presented the picture of a chronically infected membrane. There was a large amount of infected tonsil tissue on both sides. A small abscess in the right tonsil was incised and pus evacuated. Cultures taken from the right tonsil showed streptococcus and the micro-

coccus catarrhalis, while the left tonsil showed staphylococcus aureus and the micrococcus catarrhalis. Cultures from the nose showed only staphylococcus albus. Both ear drums were thickened and some dullness in hearing was present.

I reported that operation should be performed at once to eliminate the infection in the sinuses and tonsils. The patient was in a highly nervous condition, and her previous operative experiences had been very distressing without bringing her relief. As the patient absolutely refused to consider any operative work whatever, conservative measures were instituted in the hope that consent to an operation would eventually be obtained. Treatment consisted in frequent washing out of the nasal cavities, followed by the instillation of argyrol, and the opening of pockets of pus in the tonsils and injecting argyrol. I used autogenous vaccines, although previous experience had shown me that little or no help was to be expected from their use until the various foci had had proper surgical treatment. The iritis was under the constant care of the ophthalmologist. For a period of ten months previous to coming under my care this patient had had recurring attacks of iritis and was totally incapacitated.

On November 19th I noticed that the mucous membrane posterior to the upper incisors was badly inflamed. The teeth presented sufficient evidence to warrant my urging the patient to have her dentist begin proper treatment at once. On November 22d the iritis again showed acute symptoms. On December 5th cultures showed streptococci and staphylococcus aureus. I treated this patient frequently and as thoroughly as conservative measures permitted, while urging operative treatment. The iritis following this period seemed to be improving. On March 7, 1914, there was another attack of iritis. The frontal sinuses and the antra were found to be free from infection.

On April 7th a submucous resection of the septum was done. Following this, the nasal pathology greatly improved and the eyes seemed to be much better. The patient's experience with the results following the submucous operation were such that she consented to a tonsil and adenoid operation on July 1, 1914. On October 14, 1914, it was noticed that there was still considerable discharge from the posterior group of ethmoidal cells and from the sphenoids. On November 5th she had another attack of iritis. At this time I again urged her to have her dentist treat the infected teeth in an efficient manner. In January, 1915, another rather severe attack of iritis occurred. With these later attacks it was noted that both middle turbinates became swollen and that the postnasal discharge increased. On February 6th the iritis was subsiding; on March 3d another attack occurred. I seized this opportunity to urge again radical operative treatment of the sinuses. This was done under local anesthesia. From March 3d to November

26th there were no attacks of iritis, which was the longest period she had been free since the first attack in January, 1913. The attack on November 26th was a mild affair and soon cleared up. Feeling convinced that her dentist was too old fashioned to be useful, I succeeded in placing her in the care of a competent dentist. I cultured the teeth at this time and found streptococci. Autogenous vaccine was used while the dentist was treating the infected teeth. The patient has been entirely free of attacks of iritis up to the present time, and the nose and throat have not required any attention whatever. It is now five years since the last attack of iritis, and the patient has been attending to her duties as teacher. The ophthalmologist reported as late as October, 1919, that there had been no further attacks of iritis, and that the result was most gratifying.

My object in reporting this case is to point out a number of the ills which it so well illustrates. If this patient had been seen at the time of the first attack of iritis, and the surgical elimination of the foci of infection accomplished at once, I have no hesitancy in stating that the iritis would have been placed under immediate control and further attacks prevented. After a period of ten months, when I first saw the patient, there was a much more difficult problem to deal with. If I had been permitted to do at one sitting under general anesthesia the surgical work which I eventually accomplished piecemeal over a long period of time, we would have saved the patient months of suffering and the eyes would have benefited proportionately.

CASE II.—Mr. K., aged fifty-nine, was referred to me by Dr. J., an ophthalmologist, on October 2, 1917. The following history was elicited: The patient had always enjoyed good health up to six years ago, since which time he had had frequent attacks of iritis. The early attacks involved both eyes. For the past three years the attacks had involved one eye at a time, although both eyes had suffered about the same. He never had had rheumatism until six years ago, at which time the attacks of iritis first made their appearance. The rheumatism and the iritis had been present during this period. The right knee had been particularly troublesome, although practically all of his joints had been affected. The neck had also been rheumatic. He never had had tonsillitis nor been susceptible to colds in the head. He had had what he called a moderate catarrh with dropping into the throat. One year ago he went to Mt. Clemens, Mich., for treatment. This was followed by a slight improvement for a short time. Six months ago he had an x ray of his teeth, as a result of which two impacted teeth were extracted. No benefit was apparent following the extraction of the teeth, as the attacks of iritis had been just as frequent and of equal severity. The rheumatism had also continued without relief. The last three attacks of iritis had involved the left eye only. The present attack, however, involved both eyes and began two weeks ago. It had been evident to the patient that the treatment he had had up to the present time had not influenced either the iritis or the rheumatism.

An examination of the nose showed the septum to be deviated to the left with a sharp spur posteriorly, imbedded in the inferior turbinate. There was complete obstruction of the left middle meatus and gross evidence of sinus infection on this side. The right side showed complete obstruction of the middle meatus, and polypi present. Sinus infection of this side was plainly present. The postnasal examination revealed posterior discharge from both sides, and the mucous membrane of the nasopharynx and pharynx was badly inflamed. The tonsils were atrophied in appearance and presented no gross appearance of infection.

I advised surgical elimination of the sinus infection. On October 3d a submucous resection of the septum was done. Following this procedure the usual antiseptic treatment was instituted. The advisability of completing the operative work as soon as possible was pointed out, but the patient was averse to haste and I was compelled to complete the work at intervals. On November 9th a mild attack of iritis occurred. A culture was taken of the sinus discharge at this time and an autogenous vaccine was used as part of the treatment. On November 15th, January 16th, March 4th and March 23d there were mild attacks of iritis which the patient said disturbed him very little. Each attack began clearing up in from twelve to forty-eight hours. The rheumatism manifested itself less and less. An acute involvement of the left shoulder joint followed the opening of the ethmoidal cells and the sphenoids of the left side. This subsided in a few days.

Following the complete removal of the anterior and posterior ethmoidal cells of both sides and the opening of both sphenoidal sinuses, the patient was treated locally until the sinus infection was entirely cleared up. The patient was last seen on July 12, 1918, for observation. At this time the nasal condition was entirely satisfactory, and required no further attention. The patient stated that he had not had any evidence of rheumatism since May 15th, and the last attack of iritis was on March 23, 1918. The report of the ophthalmologist stating that there was an entire subsidence of the iritis and function was satisfactory. The patient volunteered the information that he believed he was cured, as he felt perfectly well.

Of this case it may be said that the iritis and rheumatism, from which the patient had suffered for six years, could have been prevented had the surgical elimination of the foci been done at the first manifestation of disease. In these late cases we have much to contend with. The original foci must be eradicated, of course, but the damage already done to the parts affected cannot be repaired. One cannot be too cautious in promising complete restoration of function. On the other hand, I have been agreeably surprised at the actual restoration of function which has resulted even in the late cases. This applies to the entire group of pathological sequences to which the cases under discussion belong.

In Case I we had three possible sources of infection: the tonsils, the sinuses, and the teeth. The sinus infection could have caused the iritis by direct

invasion through the diploic veins and lymphatic channels, or by indirect invasion through the blood stream. The tonsils and teeth, of course, could only have been a source by way of the blood stream. With such a multiple source of infection present it is necessary to eliminate them all. In Case I it was noticed that there were no attacks of iritis following the radical surgical procedure on the sinuses. The dental work was not begun until some time after the last attack of iritis, and was not completed until seven months after the last attack. While I believe it was imperative to eliminate all the foci, as we did in this case, I am convinced that the sinus infection was the dominant source.

In Case II we noted that there was no change in

the patient's condition following the extraction of the teeth. The iritis and rheumatism continued as before. The complete and permanent subsidence of the iritis and rheumatism following the eradication of the foci in the sinuses proves beyond any doubt that the sinus infection was the sole source of the rheumatism and iritis. Here again the invasion may have been through the diploic veins and the lymphatic channels or by way of the blood stream. The presence of the rheumatism in this case, which went hand in hand with the iritis in its onset, course and subsidence, is, to my mind, conclusive evidence that in this particular case the iritis was caused by a blood stream invasion.

121 St. JAMES PLACE.

## General Versus Local Anesthesia in Operations on the Nose and Throat

By W. R. WATSON, M. D.,  
Philadelphia.

There has been some discussion of late over the question of whether certain operations on the nose and throat should be done in the office under local anesthesia, more particularly with respect to submucous resection of the nasal septum and tonsillectomy. My views on the matter, while I am not inclined to be dogmatic or contentious over the subject, are somewhat fixed and prejudiced in favor of the procedure. Every nose and throat surgeon has his own peculiar ideas, however, not only as to the propriety of attempting these operations in his office under local anesthesia, but also as to the technic in accomplishing the anesthesia when he does. These points I shall endeavor to bring out as I proceed.

Submucous resection of the nasal septum is usually done in the office by most nose and throat surgeons, but there are a few operators who prefer to do this operation under ether in the hospital. They do practically all their submucous resections in this way, and, therefore, one must conclude that it is not a case of expediency with them. They really prefer it. To me this seems a mystery, considering the difficulty in technic as compared with the simplicity of the procedure when done under local anesthesia. This, of course, is only another case of difference of opinion. Naturally, there are some isolated cases in which we must all operate under general anesthesia. The patient insists upon it and will not submit to the operation at all unless he can have ether, and if you do not comply with his demands he leaves your office and finds someone who will.

I have no doubt that we all have witnessed a submucous resection under general anesthesia, but for those who might have forgotten the picture I take the liberty of refreshing their memories. The patient is brought in from the anesthetizing room, and with him comes the anesthetist, an assistant, a surgically clean nurse, and another nurse. Includ-

ing the operator, you will note that it takes five people to do this simple operation, and all of them seem to be necessary. The patient's posterior nares are packed, or perhaps instead a suction pump is used to keep the blood from running down the throat; it depends on the operator. A few pads saturated with a solution of adrenalin are inserted into the nostrils, removed again, and then the operation proceeds. From the first incision the blood commences to flow and the assistant begins his almost hopeless task of keeping the surgical field clear so that the operator may see what he is doing. The clean nurse is more than busy passing strips of gauze to the assistant, who, with dressing forceps, packs them down in the nostril for a fleeting moment and withdraws them again, whereupon the blood wells up again. But not before the operator has made another masterly attack upon his septum, if only for a moment. And this fight against the rising tide of hemorrhage lasts throughout the whole operation, provided it is not prolonged. For of course you all know the physiological effect of ether. It at first greatly stimulates the heart, and later it depresses, and, notwithstanding the adrenalin applied in the nose before the operation commences, the nose bleeds just as I have stated, which creates a condition, I feel sure you will agree, that is not conducive to good surgery. Moreover, when the operation is finished the patient has the added discomfort of recovering from the ether, which is not an inconsiderable item. I fail to see, therefore, why one should prefer to operate in such a bloody mess when he has at his command a perfectly clean, painless, and safe procedure, by which I mean the operation under local anesthesia. In this case the patient walks into your office unaccompanied by any assistant. You use your favorite method of anesthetizing the septum; do a perfectly clean operation in open view; pack the nose as you are in the habit of doing; bid your patient good day, and he leaves

feeling pretty cheerful. Furthermore, he is able to come back to your office the next morning for the removal of the packing, and he has been saved all the expense incident to a stay in the hospital.

There are several ways of anesthetizing the septum. Some surgeons use the crystals of cocaine, ground up into a fine powder. Unless it is treated in this way the sharp crystals have a tendency to cut into the mucous membrane and make it bleed. An applicator is first dipped into a one in one thousand solution of adrenalin, and then into the powdered cocaine. With this the mucous covering of the septum in both nostrils is massaged until three to four grains of the drug have been used. Complete anesthesia should be obtained with this amount. In certain individuals this method not infrequently causes a mild toxemia, though I have often thought that what I have taken for toxemia in most cases was nothing more than nervousness. At any rate, it lasts but a short time, and if the patient is allowed to lie down for a few moments it passes away and the operator may proceed with his work without further interruption.

Another group of operators use a ten per cent. solution of cocaine, into which has been introduced a sufficient quantity of adrenalin, one in one thousand. They place against the septum separate pads of absorbent cotton which have been saturated with the solution, thus covering the septum on both sides with these pads. These pads are allowed to stay for about ten minutes, or until it is thought that anesthesia has been accomplished, which takes from ten to fifteen minutes. This is a favorite method of some operators. They assert that it does not lacerate the mucous membranes as the crystals do, nor do the patients seem to present the toxic manifestations I have already spoken of when using the latter. But I maintain that the anesthesia is nothing like so perfect as that procured with the crystals. These patients often complain of pain, whereas those anesthetized with the crystals seldom if ever do.

Still another group favor the injection of weak solutions of novocaine or apothesine beneath the perichondrium, or between the latter and the cartilaginous and bony septum. They assert that this method serves two purposes; it not only anesthetizes the septum but also elevates the perichondrium from the septum in such fashion that only a few touches here and there with a sharp Freer elevator is necessary before bone removal is commenced. This method would seem ideal if it accomplished all its advocates claimed for it. I must confess that my experience in anesthetizing the septum in this way is practically nil, or at least not large enough to allow me to speak with any degree of authority respecting it. I once attempted two operations with this method, and, if my memory serves me right, I was finally compelled to apply cocaine to finish the operations in each case, after which I naturally abandoned it. Perhaps, however, my technic was at fault.

I believe that among the three common methods of anesthetizing the nasal septum, of which I have spoken, the use of cocaine crystals is the most popular among nose and throat surgeons. I have no statistics to offer upon which to base this state-

ment, but I have gathered this idea from personal observation, not only here in Philadelphia but elsewhere.

Now about the much mooted question of tonsillectomy in the office. I do not, by any means, wish to give the impression that I prefer this method over the ether and hospital operation. As a matter of fact, I am compelled to confess, in the interest of truth, that while I feel altogether safe when doing the operation in a well equipped hospital, I am not without qualms of apprehension when I throw the snare over a tonsil in my office. While I am nearly convinced that any fear I might have felt in the past on account of the hemorrhage bugaboo was groundless, I never fail to approach the task with respectful steps, which sounds, of course, to a critical mind, altogether paradoxical. But what I wish to express in plain words is that when the necessity requires it, and there are many such occasions, I consider it entirely appropriate to do the operation in one's office. In ninety-nine cases out of a hundred your sigh of relief as the patient walks out of the office is justified. There will be no hemorrhage. The hundredth one may bleed, however, and it is this small percentage which has raised the contention against the operation with local anesthesia. Usually, however, it is not a massive hemorrhage, and if the bleeding is immediate and not postoperative one can nearly always stop it in the office by means of some simple styptic. Most of the time the mere application of hydrogen peroxide will stop it instantly. If the patient is sufficiently tractable a suture may be thrown around the bleeding point. At any rate he can always be taken to the hospital and the bleeding controlled under ether.

Not long ago I heard a prominent surgeon pronounce the tonsil operation as a major operation. If this is so, and I have never answered that question in my own mind, it seems palpable that the operation should never be attempted in one's office chair. But is it a major operation? And is it a fact that nearly every nose and throat surgeon, all of whom have been doing these operations every day with practically no casualties, are guilty of stepping beyond their sphere of practice? I contend that they have not. As a matter of fact, in my opinion the gravity of the tonsil operation is no greater than in any other nose and throat operation from which we might expect hemorrhage.

Another argument I have heard advanced against the local anesthesia operation is that the patients would eventually come to consider the operation so trivial that they would protest against the fee charged. Such ideas are so mercenary that it would almost seem as if some chiropractic had uttered them. But naturally, when a patient walks into your office and a few minutes later walks out without his tonsils, it seems to him a simple procedure and not worth anywhere near the hundred dollars you charge him. The unthinking ones, in fact, call you a highway robber. "Why," they will say, "my neighbor had his taken out in the hospital, where they gave him ether, and they had assistants and nurses, and they kept him in the hospital for two days, and still the doctor only charged him as much

as this highbinder charged me." It seems like boasting to tell that man that it requires a great deal more skill to do the operation under local anesthesia; it does, providing you succeed in doing it painlessly. And this brings me to the technic of accomplishing local anesthesia of the tonsil.

And here, as in the anesthetizing of the septum, every surgeon has his own favorite method. Some use cocaine, some novocaine or apothesine, and some simply normal salt solution. The cocaine is used in a one fifth of one per cent. solution, or even weaker, into which has been introduced a few drops of adrenalin, one in one thousand. The advocates of the use of this solution try to limit the amount injected to no more than three drams. So the patient receives, injected into his tissues, thirty-six hundredths of a grain of cocaine. But with cocaine one operates immediately after the injection has been accomplished, and doubtless a great deal of the solution flows out of the wound. At any rate, those who are in the habit of using this solution assert that they have no more toxic effects than those who use other drugs. It has the advantage, already mentioned, that one loses no time and can operate immediately, but it has the disadvantage of necessitating great care that enough and no more of the solution should be used. Unfortunately there have been mistakes in making up the solution, a ten per cent. solution being used instead of the weaker.

Those who use novocaine or procaine have it made up into a one per cent. solution. I have no experience with apothesine at all. But novocaine is used by a great many nose and throat surgeons, and the majority of them seem to be indifferent as to the quantity used, drawing it up into their syringes without measuring it, and injecting it in sufficient quantity until they consider the parts anesthetized. This, of course, is a reprehensible practice, but exemplifies fairly well their ideas as to the nontoxicity of the drug. As a matter of fact I have yet to see the first indication of any toxic result from the use of novocaine. The manufacturers assert that it is only one fifth as toxic as cocaine. When it is considered that it is used in solution five times as strong as cocaine, and in larger quantities, I think their assertions are very modest. Procaine, the American made novocaine, is the drug most used in America. The advantage in the use of novocaine or procaine is of course in its weak toxic properties, but in order to obtain a perfect anesthesia one must wait for five or six minutes after the injection is made, which is its only disadvantage.

The use of normal salt solution to anesthetize the tonsil for operation I mention only to condemn it. As a matter of fact I think the practice is barbarous. The patients I have seen operated upon with this so-called anesthetic could not have yelled louder if no anesthetic had been used. Still I have seen fairly good anesthesia obtained with normal salt solution when injected into the skin. This, however, is because the skin is denser and offers more resistance, thereby causing a pressure anesthesia. But the tonsil ordinarily lies so loose in its capsule that this does not obtain, and therefore anesthesia does not occur, or if it does it is so mild in quality that pain is not eliminated.

The technic in injecting the tonsil for perfect anesthesia also differs among nose and throat surgeons, though without exception I think all of them are agreed upon one thing, and that is, the necessity of depositing the drug as nearly as possible around back of the tonsil and within the capsule; only their manner of accomplishing this is different. For example, one man will use a curved needle and another will use nothing but a straight one; one likes a small syringe and another a large one; one man will push the needle through the anterior column to reach the capsule behind the tonsil, and another will go directly through the tonsil. Personally, I favor the following procedure: With a straight needle the anterior pillar is moved gently aside and the needle inserted through the plica tonsillaris in a direction in line with the angle of the lower jaw. The handle of the syringe is now brought to the front and the needle pushed further in until the capsule back of the tonsil is reached, whereupon the injection is made at that point. Three insertions are made in each tonsil: one in the middle, one in the upper pole, and one in the lower pole. I have no very important reason for following this method, except that I think one may have more assurance that he can more effectually confine his solution to the capsule, and also because of the reluctance of wounding the anterior column, from which I have seen an annoying hemorrhage occur from a needle prick.

J. Coleman, in the NEW YORK MEDICAL JOURNAL, July 5, 1919, gives the following views respecting tonsillectomy with local anesthesia:

"As between local anesthesia and general anesthesia for the operation of tonsillectomy in an adult, in the light of our present knowledge of local anesthetics and local anesthesia, it is difficult to find justification for the use of general anesthesia and the subjection of the patient to its concomitant inconveniences and possible dangers."

The editor of the nose and throat articles in the current year book, George E. Shambaugh, professor of otology at the Rush Medical College, Chicago, in commenting on this article of Coleman's, says: "General anesthesia for tonsil operations is not recommended in adults. The danger is much greater and the discomfort is greater than when using local anesthesia." Shambaugh also says:

"1. Hemorrhage is much less under local anesthesia and what bleeding occurs is more readily controlled with the patient awake.

"2. Mental shock under local anesthesia is quite negligible, except in unusually nervous patients. For such cases give general anesthesia.

"3. Surgical shock is much less under local anesthesia when properly administered.

"4. Cleaner operation is possible under local anesthesia than with the patient asleep.

"5. An adenoid operation is rarely required when the local anesthetic is employed, i. e., in adults.

"6. Trauma is much greater when using general anesthesia.

"7. There is no difference between the methods.

"8. We believe there is no doubt that the local anesthesia is much the safer method."

1805 PINE STREET.

## An Aid to Diagnosis of Suspected Foreign Body in Esophagus\*

By ELLEN J. PATTERSON, M. D., F. A. C. S.,  
Pittsburgh, Pa.

Under the heading of suspected foreign body in the esophagus, I would classify all those cases without a definite history of a foreign body having been in the mouth, but where the patient thinks or imagines that he or she has swallowed a foreign body during the ingestion of food. In these cases symptoms usually follow the ingestion of stew, soup, or mashed vegetables, and are initiated by a distinct feeling of a scratch low down in the throat by a sharp foreign body during deglutition. Frequently the patient makes vain attempts to regurgitate the foreign body by introduction of the finger, or to push it down by eating dry food, until the patient becomes overwrought or even hysterical in the effort. In this state of mind the patient seeks medical advice, unable to swallow solid food either from pain or fear of pain. Many of these patients are neurotic individuals, and it is difficult to differentiate symptoms due to hysteria from symptoms due to foreign body, especially in a patient who has knowledge of the history of a foreign body case. The symptoms complained of are inability to swallow solid food, and pain at the level of the larynx or behind the manubrium. If the foreign body happens to be a fragment of bone or a foreign body dense to the röntgen ray, the problem is the usual one of esophagoscopy for removal. However, with negative findings by the röntgen ray, we have one of two problems: either a foreign body in the esophagus not opaque to the ray, or an abrasion of the esophageal mucosa caused by a sharp foreign body which has passed into the stomach, the esophagitis giving rise to symptoms simulating foreign body in the esophagus.

If we do an esophagoscopy in such a case we may find an epiglottitis, a foreign body or trauma with more or less adjacent acute esophagitis. The mirror may show epiglottitis or laryngopharyngitis; the fauces may show the results of the digital efforts of the patient, or all local examination including the endoscopic may be negative. In the face of negative röntgenographic findings it is essential to have some aid in locating obstruction in the esophagus in these cases.

If a patient is given a thick barium meal during the fluoroscopy for diagnostic purposes, the esophageal walls become so pasted with barium that finding a foreign body or diagnosis of esophagitis becomes more difficult, and it is necessary to postpone esophagoscopy for a number of hours to allow the barium to escape.

In my work with Dr. George C. Johnston, Dr. George W. Grier, and Dr. W. R. Ray, we have decided upon the following method by which we now determine whether or not esophagoscopy is indicated in indefinite foreign body cases where radiographic findings are negative and symptoms are indefinite. The patient is given a large capsule

filled with barium, and its course down the esophagus watched with the fluoroscope under the eye of the fluoroscopist experienced in esophageal work and familiar with the normal hesitation in movements of the esophagus. The small amount of barium spilled out of the capsule, if it lodges above any obstruction, acts as an aid rather than a hindrance in locating the level of obstruction during esophagoscopy. This method will reduce the number of cases in which we must act on the rule "In case of doubt do an esophagoscopy."

CASE I.—Mrs. A. W., aged thirty-five years, complained of severe pain in the throat and inability to swallow solid food for five days after having eaten mashed potatoes. She used her finger vigorously to dislodge what she thought must be a chicken bone in her throat, to no avail. The report of the röntgenologist, Dr. G. W. Grier, showed no opaque foreign body in the esophagus, but the bismuth capsule lodged opposite the first dorsal vertebra. Esophagoscopy revealed no foreign body, but an intense ulcerative esophagitis with a very foul odor. Symptoms disappeared with the clearing up of the esophagitis.

CASE II.—R. O., male, aged twenty-six years, complained of inability to swallow solid food and sudden severe pain extending from behind the middle of the manubrium down to the right arm, for five days following the eating of vegetable soup. The pain was continuous night and day and so severe he could not sleep. Röntgenographic examination by Dr. G. W. Grier showed no opaque foreign body in the esophagus, but the bismuth capsule delayed opposite the fifth dorsal vertebra and would not pass even after the patient drank a glass of water. Esophagoscopy revealed no foreign body, but an abrasion of the esophageal mucosa, and the patient had instant relief from pain and dysphagia following the esophagoscopy.

CASE III.—Mrs. S. M., thirty years of age, complained of swallowing a piece of cotton from around a tooth, while eating mashed potatoes. For two days she could swallow solid food, after which she could swallow liquids with difficulty, and for twenty-four hours previous to consulting me she said she had swallowed nothing. The report from Dr. G. W. Grier, the röntgenologist, is as follows: "We gave this patient a bismuth capsule which went down very rapidly and without the least hesitation into the stomach. In spite of this fact, she insisted that it was sticking in her throat, and showed us the point where it was sticking. We then gave her a few swallows of the barium solution, which went down without any trouble whatever, and outlined the esophagus, which is entirely normal in contour. There is no evidence of any foreign body or lesion in the esophagus of this patient."

In this case no esophagoscopy was indicated, and the patient recovered without further trouble.

1018 WESTINGHOUSE BUILDING.

\* Read at the third annual meeting of the Association of American Peroral Endoscopists, Boston, June 1, 1920.

## Gillies New Method in Giving Support to the Depressed Nasal Bridge and Columella

By J. EASTMAN SHEEHAN, M. D.,  
New York.

The object of this paper is to place before the surgical profession a new method of giving support to the nasal bridge for the relief of distressing deformities of the nose. The method as practised and evolved by Gillies is entirely new. Gillies performed his first operation during the past summer in London, and, as far as I know, I performed the first operation in America during the early autumn. The question naturally arises, What are the best

tissue. This whole problem has been solved by the wonderful work of Gillies in the use of chondral cartilage.

Bone with or without its periosteum is to be discarded, as many times it is slowly absorbed. It is quite difficult to shape and whittle to the desired pattern, thereby causing unnecessary handling of the graft, which lessens its vitality, may cause infection, and for this reason should be excluded as a means of support.

This holds good whether the bony rib, ilium, tibia or turbinates are used. It is the opinion of Gillies, based upon his extensive experience in dealing with these cases, that by using such grafts they either absorb, leaving fibrous tissue which may act somewhat as a support, necrose, or exfoliate. The uses of bony grafts are narrowed down by him to the replacement of mandibular or malar losses. Septal cartilage, consisting as it does principally of yellow elastic tissue, meets an early death as a rule. It gives a weak support, readily absorbs and has no power to combat infection. As it absorbs it is replaced by fibrous tissue which may act somewhat as a weak support.

Celluloid plates, metallic plates, injections of liquid celluloid, pieces of wax, cannot be too forcibly condemned. They act as an irritant to the tissue, generally sooner or later giving trouble by abscess formation, gangrene, atrophy of skin and finally expulsion. Grafts if they take, particularly that of cartilage, continue satisfactory.

Chondral cartilage has no bloodvessels and is nourished by lymph absorption (Smith). It prob-

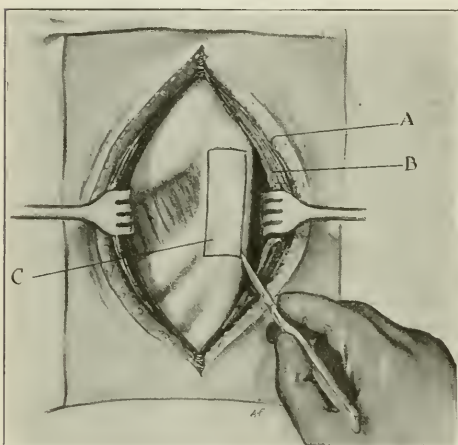


FIG. 1.—A, skin and fat; B, rectus muscle; C, outline of cartilage to be removed with perichondrium intact.

supporting substances to be used in giving permanent support?

The greatest difficulty which the plastic surgeon encounters is the question of contour and substructure. If it were possible to imbed foreign bodies in the nose and face which would not give surgical trouble, the problem would be a simple one. Surgeons who have worked in this field of endeavor have taxed their resources to the utmost to avoid the great difficulty that surrounds the provision of natural substitutes for the bony substructure. There has been a tremendous temptation for them to look to all sorts of foreign bodies on which to reconstruct the face and nose. So great was the temptation that during the early part of the war foreign bodies were much used, particularly by the French, because hundreds, perhaps thousands, of pieces of metal had been imbedded without causing apparent trouble. We know that before the war the implantations of foreign bodies, particularly celluloid, silver filigree, and the injecting of paraffin, was widely used, but the great success will surely come to him who by proper surgical means uses transplants of a normal or nearly normal

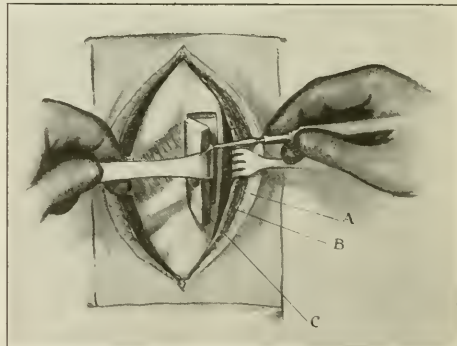


FIG. 2.—A, skin and fat; B, rectus muscle; C, block of cartilage about to be removed with perichondrium intact.

ably grows when the perichondrium is intact. It combats infection as stated by Gillies. This has been admirably proved in the case of Miss D., who had an extensive infection with the staphylococcus albus, starting three days after the insertion of the

graft. By appropriate means the infection subsided within six weeks without materially damaging the graft. It can be easily handled and shaped to any desired pattern. There is one disadvantage in leaving the perichondrium intact, the graft has a

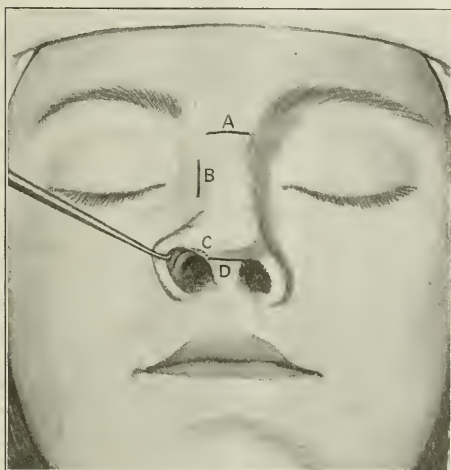


FIG. 3.—Incisions previously practiced; A, infraglabella incision; B, inner canthus incision; C, ala incision; D, horizontal tip end incision.

tendency to bend or curl up, leaving it occupying the concavity. In the repair of tissues where a curve is required, as in the eyelids, mandible and alæ nasæ, it is well to leave the perichondrium.

The experimental work of Davis and the work of Keith, Murray and Gillies have shown that there is a permanence in the cartilage graft. Only in homologous grafts has the cartilage been replaced by fibrous tissue. Autologous grafts never meet this fate, if the graft takes successfully.

#### METHOD OF REMOVAL OF CARTILAGE FROM THE CHEST WALL.

The method of obtaining the cartilage as suggested and practiced by Major H. D. Gillies is as follows:

The costal synchondroses are approached by a vertical incision fifteen centimetres long over the cartilages of the seventh, eighth, and ninth ribs, having its middle opposite the junction of the seventh and eighth ribs and extending through the rectus muscle, which is widely retracted. This area is chosen because here they expand into a wide plaque, and cartilage of any size and shape may be taken. It is still an open question whether it is better to remove the cartilage with perichondrium or subperichondrially. Smith and Whale feel that if the resection be subperichondrial there is a possibility that some new cartilage may be formed, thereby strengthening to some extent the weakened part of the chest wall and covering the cut ends of the cartilage. Gillies has told me that, although there may be a formation of some new cartilage, it will not be to such a degree as to strengthen markedly the weakened wall. Cases which he reexposed

after the elapse of several years showed no regeneration. In several cases a misdirected incision in the cartilage was as clearly seen as if performed yesterday. The cartilage should preferably be taken from the right side of the chest to avoid the possibility of injuring the pericardium by causing pleurisy followed by pericarditis. It also avoids the possibility of causing a concussion of the heart.

It is more convenient for a right handed operator. Before the operation a piece of nasal snare wire is boiled and used as a measure to determine the exact length and width of cartilage needed. More cartilage than is required for the case should be excised, to insure an ample supply in the event of accidents and infections. It may possibly be useful for others. If the graft is used as a homologous one, it is essential that the blood be examined for syphilis. The cartilage may be removed in part or throughout its whole thickness. It all depends upon one's need. A scalpel, a sharp undermining elevator and a blunt retractor are the only instruments necessary for its removal. The excess is hoarded under the skin of the chest. If the operation is to be performed in two steps, as in the case of Ott, the whole amount is inserted beneath the undermined skin. As soon as one removes the cartilage it is immediately wrapped in dry sterile gauze and placed on a sterilized side table with edges raised to prevent disaster during the shaping of the graft. The chest wound is sutured by an assistant and the thorax strapped as for a fractured rib thereby avoiding pain which is otherwise likely to be intense. The instruments which have so far been used should now be discarded and a fresh set used for the nose.

A photograph should be taken and a plaster cast made before starting any surgical procedure. They

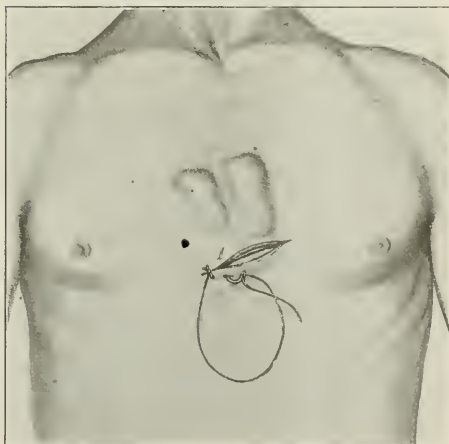


FIG. 4.—The cartilage graft hoarded beneath the skin of the thorax for future use.

are inexpensive and the casts not difficult to make. They form an excellent record. Wax models taken from the plaster casts are also valuable as records, but their merit is artistic rather than scientific. They are more realistic and admirably suited for museum

purposes. The wonderful models, such as those in the great collection of Major Valadier at the Crystal Palace, and in the museum of the Royal College of Surgeons, are the last word of all that has been attained in the way of wax model surgical records.

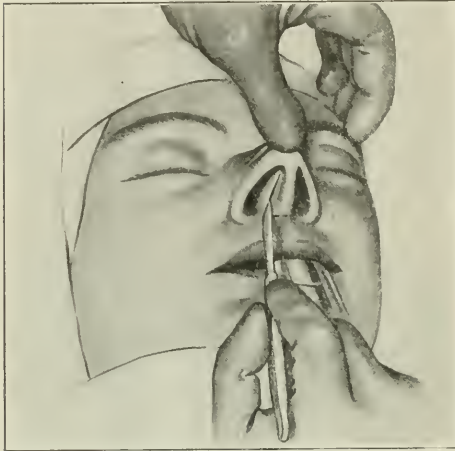


FIG. 5.—The columella incision.

Other nasal incisions commonly practised are infraglabella, inner canthus, *alæ nasæ*, and horizontal tip end incision.

#### THE COLUMELLA INCISION.

A vertical incision is made near the junction of the skin and mucous membranes of the columella carried through its whole length, brought forward around the columella at its base and upward to the opposite side. The columella is now hooked backward and held out of the way by an assistant. The

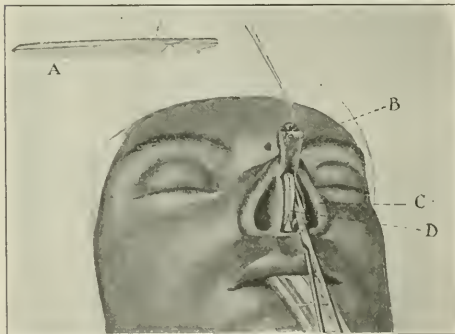


FIG. 6.—A, the cartilage graft with triangular piece excised for the purpose of angulating it. A, perichondrium intact over the excised cartilage to act as a hinge when bending the cartilage to a right angle; B, Columella hooked backwards; C, Denuded septal membrane; D, cartilage of the septum.

septal mucous membrane on both sides is freed for a short distance. This is done for the purpose of securing a firm hold and accurate approximation when suturing. The skin over the depressed bridge

is undermined to the infraglabella region, for the purpose of making a bed for the graft. The graft is now properly shaped to the desired pattern and a triangular piece excised at its proximal end, for the purpose of angulating it. The perichondrium

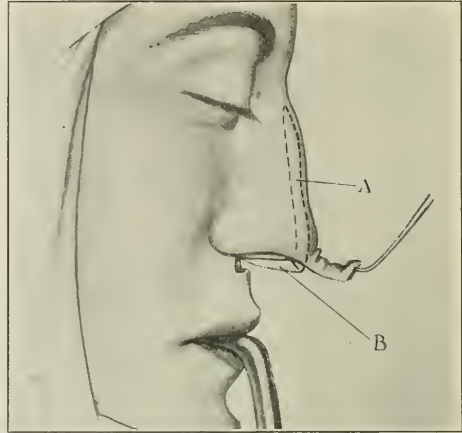


FIG. 7.—A, the graft inserted in his bed; B, the cartilage bent to a right angle to be enveloped by the folds of the columella.

over the bridge of this excised triangular piece is left intact so that it may act as a hinge, and the rest is removed. The graft is now inserted in the nose and lower part bent to a right angle, its end fitting into the loose tissues at top of the philtrum of the columella. All septal cartilage is removed from columella if present and the edges and middle are so trimmed that they envelop the new graft. The wound is now closed, using fine horsehair, care being taken to secure accurate approximation of septal and columella flaps. The pressure bandage so generally used in such cases is omitted, its only use being in case of excessive bleeding. The nasal

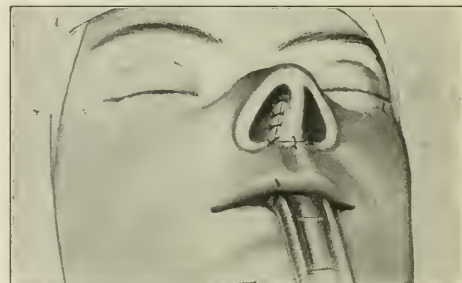


FIG. 8.—The columella sown

wound is kept clean for several days after the removal of the stitches, which is generally after seventy-two hours.

#### CONCLUSION.

Interest in plastic surgery is quite certain to outlive the war which excited it. Most of the plastic

surgeons who worked at the Queen's Hospital, Sidcup, practised our specialty before the war. Thus it has come about that otolaryngologists, by a happy combination of the broad principles of general surgery with their own special technic, have produced a tremendous amount of wonderful work the principles of which will live forever.

It is not my purpose to give a history of rhinoplastic methods. The operation is of the greatest antiquity. It was performed in India thousands of years ago for the relief of the disfigurement caused by punitive mutilation of the nose. This is known

as the Indian method, by which an effort was made to use any tissues about the nose, inverting them, as a nasal lining and covering them by a forehead flap. Then there is the Italian method or Tagliacozzian, in which a pedicled flap was transplanted from the arm; and the French, in which cheek flaps were used. It is only natural as the result of the great amount of valuable work performed recently in this line that history will record a fourth prototype and name it after that great surgeon, author and soldier, Major H. Delp Gillies.

24 EAST FORTY-EIGHTH STREET.

## Qualifications a Peroral Endoscopist Should Possess\*

By JOHN W. MURPHY, A. M., M. D.  
Cincinnati, Ohio.

The number of men who will do endoscopy must always remain limited. The very nature of the work we are called upon to do, the limited field for the specialist and the poor financial returns in connection with the expensive equipment one must possess even to attempt the most simple extraction, will always keep our membership limited. Nor is it necessary that a large number of men should devote the time and money necessary to acquire the experience and technic one must possess to do this work successfully.

A very few men, even in the larger cities, will be able to take care of all of the cases that will be likely to come their way. The field is so limited that it must always be looked upon as a side line of more remunerative special work of the laryngologist, and I fear the number of successful laryngologists who are going to find the work congenial must always be limited. To be happy in this line of work, one must be an enthusiast in addition to other necessary qualifications which I consider essential.

I would put first among these, that the successful bronchoscopist must be of a mechanical turn of mind. No two cases are alike, and unless you are quickly able to make changes in your armamentarium and technic, failure will result.

The next important qualification I would say is normal vision. Even a slight error of refraction is somewhat of a handicap, and the presence of a considerable error makes the task almost impossible. The eye soon becomes exhausted from looking through a long narrow tube with a bright light at the distal end. This is where teamwork becomes most valuable and time saving. When the eye becomes weary we are not sure as to what we are seeing, and if an expert eye and hand can relieve you at this critical moment your relief will be great and your success more sure. If the operator is unfortunate enough to have reached his twoscore years, as I fear most of us have, then he must be provided with suitable lenses adapted to the suitable length of tubes he is going to use. Without a clear

cut outline of what is going on at the distal end of the tube, any manipulations are not only dangerous to the patient but invite disaster and failure to the operator.

A third and very essential qualification of the up to date bronchoscopist is that he should have a good surgical training. He should feel as much at home in doing a tracheotomy or an external esophagotomy as he would be in doing a tonsillectomy. While a tracheotomy is not, as a usual thing, a difficult surgical procedure, yet when it has to be done in an emergency, and in the thick, short neck of the young child, it becomes one of the most difficult of surgical procedures.

I am sure, as I look back over my earlier work, that I have had several cases that would have been on the other side of the ledger had I performed my tracheotomies earlier, while the little patient was in condition to withstand the shock, and not have waited until the patient was exhausted. Unfortunately, I was imbued with the false notion that, with the advent of the bronchoscope, to resort to tracheotomy was a confession of failure, and that it must be resorted to only as a last resort. Every operator should adopt the technic best suited to his method of working.

As I said before, had I been willing to do earlier tracheotomies, I would have had a better measure of success. While I know this teaching is contrary to the teaching of some of our very best men, yet we are not all equally skillful in the management of these desperate cases, and when the life of the patient is at stake, we should not be bound by any prejudices but follow the course that is safest for the patient.

The fourth and last qualification which I shall mention is contained in the scriptural injunction: "Now abideth faith, hope, charity: these three; but the greatest of these is charity." He who goes into this work with the expectation of reaping adequate emoluments from it is doomed to disappointment.

However, if he takes up this work as a side issue, and is willing to devote time, money and mechanical skill in an effort to improve and develop a line of

\*President's address at the third annual meeting of the Association of American Peroral Endoscopists, Boston, Mass., June 1, 1920.

work distinctly in a field by itself, he will find the work most fascinating. The gratitude of the parents, and the consciousness of possibly having saved a life, or at least of having relieved suffering in a little child, must most often be your only reward in your successful cases.

On the other hand, even though you had nothing to do in putting the foreign body where it was, yet your failure to remove it successfully will lay you liable to most violent condemnation by the parents and friends, with possibly a threatened damage suit for malpractice.

All these little incidents have fallen to my lot during my twenty odd years of peroral bronchoscopy. As I now look back over my work as a specialist, I derive great pleasure in living over again some of my most difficult foreign body extractions. In considering a quarter of a century of

progress since I first became interested in peroral bronchoscopy, I am particularly struck by the advances that have been made in this line of work, during that time, and much of this progress has been due entirely to one of the members of this society. We see, therefore, what can be accomplished by one man by perseverance and determination, when he is willing to give up a lucrative practice in his chosen profession and see an income dwindle to almost nothing in order to develop and perfect a new field of bloodless surgery. Formerly all cases of foreign body, either of the lungs or the esophagus, were supposed to be purely surgical cases.

As I said before, while the financial returns are small, yet the field is so new and possesses such wonderful possibilities for original research work that it will remain as a most fascinating one to the enthusiast.

## An Unusual Cataract Operation

By HOMER TUTTLE, M. D.,  
Ithaca, N. Y.

I report the following case of cataract because of its unusual occurrence:

CASE.—Mrs. L., aged seventy-four, had always had good health and good vision until six years ago when she suffered an attack of pink eye, as she called it, in her left eye. The attack of inflammation in this eye doubtless attracted her attention separately to the right and she noticed that the vision in this eye was very poor. From that time on her vision failed rapidly in both eyes. She had been totally blind in both eyes for over four years, and had had to be led from place to place. Light perception and projection were good. No fundus reflex and no iris shadow were present. Urine was negative. The patient had had attacks of asthma at times and coughed some in the mornings. She was well nourished and inclined to be plethoric. A diagnosis was made of mature cataracts of both eyes.

### OPERATION.

The patient was prepared for operation upon the right eye, which was performed the second day following the examination, at 3 p. m. A ten per cent. cocaine solution was used, instilling one drop into the right eye at five minute intervals, repeating the operation four times. Anesthesia being complete, a Graefe knife was used and the corneal incision was completed without accident, except, just as the incision was finished, the patient gave a violent jump, expelling the lens intact within its capsule out through the incision. It fell upon the towel upon which her head was resting. She said, "Oh, I didn't mean to do that! Have I injured my eye?" I removed the speculum as quickly as possible, expecting a profuse prolapse of vitreous. As I removed the speculum she exclaimed, "I can see! I saw your hand!" As there was no prolapse of either iris or vitreous I closed the eye with a light gauze dressing, shield, and bandage. Patient

had no pain following the operation and slept well the first night. The bandage was removed the next day at 3 p. m. The anterior chamber had reformed and the eye was looking fine. I dressed it again with light gauze and bandage.

The eye was dressed daily, after cleansing with boric solution, without any untoward symptoms until the ninth day. During the night previous she had a violent coughing spell and when the dressing was removed the next day a small bead of vitreous, about two mm. in diameter, was protruding from the upper central part of the corneal wound. This was touched with a five grain solution of silver nitrate and the eye dressed as before. Although cocaine was used before applying the silver solution, the patient complained of pain and was restless all that night.

The eye, however, continued to improve, and on the twenty-fifth day the bandage was left off entirely. The patient at this time could without lenses distinguish objects about the room. Two weeks later the refraction was tested. With an  $S+10=C+3.00 \times 180$ , distant vision was 15—30. Adding an  $S+6$  to the distant correction she was able to read Jaeger's Test Type No. 4. She was given a pair of X bridge spectacles, with both distant and near corrections, and went home happy. The pupil was a little irregular in shape, slightly vertical oval. She would not submit to an operation upon the left eye. She said she was satisfied to see as well as she could with the right. I saw her again in two years when the refraction was examined and found to be practically the same as when first made.

This case to me is unique, because of the good result and happy termination from what might have been a total loss of vision in this eye.

307 EAST BUFFALO STREET.

## Gunshot Wound of Lateral Sinus\*

By ROBERT H. FOWLER, M.D.,  
New York,

Formerly Major in Base Hospital No. 61.

It is a pleasure to have the opportunity of presenting photographs made at Beaune, Côte-D'or, France, at the time of the Argonne drive, with relation to the use of Dakin's solution in mastoid surgery. The following is a brief report of a case of acute mastoiditis, left, with thrombosis of lateral sinus following gunshot wound. A simple mastoid operation was performed, with the removal of bone



FIG. 1.—Tangential wound, left lateral sinus, healing after operation.

fragments from the lateral sinus and resection of the left jugular vein, with recovery.

CASE. — Private James C., Company E, 110th Infantry, Base Hospital No. 61, bed twenty-nine, ward six. The man's history showed a gunshot wound at a point half an inch back of the lateral sinus. On his field card was the simple record that a foreign body, embedded in the mastoid process, had been located by x ray and removed at Field Hospital No. 9. The patient had made an apparently complete recovery from his first operation, but turned up in Base Hospital No. 61 later with all the signs of an acute mastoid infection. This diagnosis was borne out on x ray examination, and operation was done promptly. After the simple mastoid operation had been completed in the usual manner, the lateral sinus was exposed by making a posterior incision just below the scar of the original wound. A condition of affairs was then found which, so far as I know, has no parallel. The bullet, flying from right to left, had struck the sinus wall with exactly that speed and force required to fracture the bony sinus wall without breaking the wall of the vessel within. Perhaps you have seen a nut hit a full, square blow with a hammer, the shell broken into fragments, and the kernel of the nut still intact. The

sinus wall had been flattened from without inward by pressure of these bony fragments, and contained a clot which had not yet become infected. It was as paradoxical as though you were to smash in the top of an egg shell without spilling the egg. The bullet or shell fragment had been removed at the field hospital and healing had taken place which was more superficial and apparent than real, for at the later operation two pieces of bone, each the size of a dime, were found embedded in the thickened wall of the sinus. When the fractured bone had been removed, the sinus was found to contain a thrombus which was exposed for examination. It was decided that the internal jugular had best be tied off because of the high probability of infection of this thrombus within a few days. It had, by the nature of things, been exposed during this operation to the pus which had filled the mastoid cells. Jugular resection was done. Three days later, the temperature rose suddenly, and fell again quickly after thorough drainage had been established through the lower wound. Dakin's treatment was used in both wounds, and the patient made a complete recovery.

The second photograph of this case shows the Dakin's tubes in place, and illustrates the special care taken to prevent infection travelling through these Dakin's tubes. A bit of gauze, dipped in Dakin's solution, was used to cap the upper end of the tube.

### CONCLUSION.

1. The consensus of opinion among many of the surgeons in the A. E. F. was that under Dakin's treatment wounds of various character were less likely to become infected and were more quickly



FIG. 2.—Technic, Dakin's tubes, dressings, mastoid and cervical wound.

cleared up, if infected, than by many other well known methods of treatment.

2. The discomfort of the dressings is lessened by the use of Dakin's solution at regular intervals.

\* Reported to the Section in Otolaryngology, New York Academy of Medicine, December 19, 1920.

3. Where Dakin's treatment is easily available it may be used in mastoid wounds with success.

If every doughboy could voice his gratitude for having been spared pain it would indeed be a fitting tribute to such men as Dakin, Rockefeller and Car-

rel. New York should be proud of these men who had the foresight and vision to work this thing out and have it ready at the time it was so much needed by our boys.

153 EAST SIXTY-SECOND STREET.

## Resection of the Tarsus and Conjunctiva (Combined Excision) with New Instruments\*

### *A Review of Three Hundred Cases*

By ARTHUR S. TENNER, M. D.

New York.

Since Wootton's classic paper (1) on the subject of the Kuhnt-Heisrath operation for the cure of trachoma, the operation of combined excision has achieved a slow but gradually increasing popularity. However, the American literature on the subject is exceedingly scanty and from a perusal of it and from conversations with other ophthalmologists it is evident that this operation is not so extensively performed as its good results warrant. During a recent visit to Egypt, where trachoma is so prevalent and where there are numerous clinics for its treatment, the author was surprised to learn that ophthalmic surgeons of Egypt were singularly unenthusiastic about this operation. Their objections were that it was time consuming and bloody. These objections, as well as others that are urged against tarsal excision, are in a great measure nonexistent with the improved instruments and technic which I am presenting herewith. These were developed and used by the author in over three hundred operations, performed during 1919 and 1920 in the Near East.

Trachoma may be divided into two types based on its clinical and pathological manifestations. First, follicular trachoma; second, trachoma with granulations, thickening of the conjunctiva and tarsus. Both are reactions of the tissue to external injurious influences and may occur independently or in a mixed form. But the latter is the most important and the most grave. The formation of follicles may occur in other forms of conjunctivitis and in such cases may disappear spontaneously without the formation of cicatricial tissue. But the second type consists of a chronic, granulating inflammation of the subepithelial tissue with an increase of lymphocytes, plasma cells and histocytes, accompanied by young connective tissue cells which finally lead to cicatrization (2). During my stay in the Near East, where over four thousand cases of trachoma came under my observation and care, cases that could be placed in the first class, pure and simple follicular cases, were extremely rare. Many young children, even infants, had trachoma in an advanced form with great thickening of conjunctiva and tarsus. In the purely follicular cases, expression was made. A good idea of the small proportion of follicular cases seen may be obtained from the proportion of expres-

sion operations to those of excision, that is, there were twenty-five of the former to three hundred of the latter. Combined excision was done on a child of two years of age with excellent results. It was performed on a man of sixty-five with equally good results. All cases of granulating, thickened conjunctiva and tarsus of the upper lid with or without pannus, with or without ulcers, were considered suitable for operation. Cases of gelatinous degeneration were rather common and combined excision was performed with excellent results. To state the indications for the operation in one sentence: In all cases of active trachoma with evidences of the formation of cicatricial tissue, or in those cases with such formation of granulations and thickening that the formation of cicatricial tissue is inevitable, operation should be performed. If there is pannus, tarsal excision should be done to relieve the pannus; if there is no pannus, it should be done to prevent pannus.

As my technic differs in some respects from the usually given, I shall give it in some detail.

Local anesthesia is preferable and was used in all but young and unruly children. The following method was used: First the conjunctival surface of the upper lid is gently rubbed with a cotton tipped toothpick which has been dipped in epinephrine solution and then into pure cocaine crystals. Following this a subconjunctival injection of one per cent. cocaine epinephrine solution is made into the conjunctiva of the fornix, so that the latter balloons up. The needle is then thrust further in, penetrating the tarsus and more solution injected, especially at the inner canthus, which is a particularly sensitive area. Wait at least five minutes after rubbing the conjunctiva before beginning operation.

The subconjunctival injection serves a triple purpose; in addition to producing anesthesia, it marks out the line between the diseased and healthy tissue and dissects the conjunctiva by lifting it up. For these reasons, a subconjunctival injection is given even when general anesthesia is used, except that in the latter case the injection consists of sterile water or normal saline solution.

The lid is then everted and held by the fingers while by means of a specially designed knife (Fig. 1A) a horizontal incision extending the length of the lid is made in healthy conjunctiva at the limits of

\*Read at a meeting of the Section in Ophthalmology, New York Academy of Medicine, November 15, 1920.

the trachomatous invasion (Fig. 2). If the operator prefers he may use instead of his fingers the lid forceps which shall be described later (Fig. 1B). This gives a better exposure but the author prefers not to use the forceps at this stage because he wishes

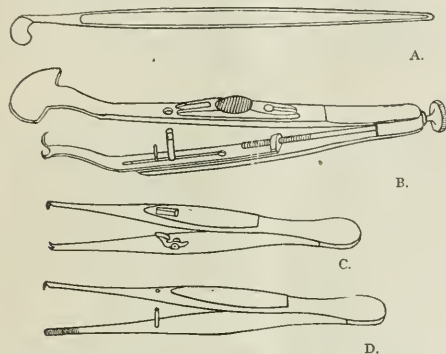


FIG. 1.—Instruments used for combined excision. A, specially designed knife; B, lid forceps; C, two mouse toothed forceps with catch; D, suture forceps.

to diminish instrumentation as much as possible on account of injury to the tissues, and secondly because immediately after making the incision the lid forceps would have to be taken off and replaced by the mouse toothed fixation forceps; so by using his fingers, instead of the lid forceps, the operator avoids considerable trauma and also saves considerable time. The ballooning of the conjunctiva and the edema produced by the injection are advantageous and helpful and enable the operator to dispense with instrumentation up to this point. The incision completed, the upper lip of the incision is seized with two mouse toothed forceps with catch (Fig. 1C), which are then held back by the assistant while the operator with the back of his knife, or blunt pointed scissors, completes the dissection of the conjunctiva for about four mm. This is a bloodless dissection because actually performed by the subconjunctival injection. The sutures are then inserted in the lower lip of the wound, double armed fine silk sutures being used, so that the loop is on the epithelial surface. Three to five sutures are employed (Fig. 3). The sutures are then laid on the cheek out of the way, and

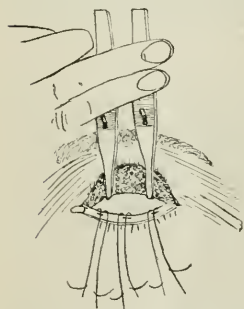


FIG. 3.—Mouse toothed fixation forceps applied to upper lip of wound and held back over brow by assistant. Conjunctiva dissected and sutures inserted.

the operator proceeds with the excision. This step is performed as follows: The lid is seized with a forceps specially designed for the purpose (Fig. 1B). I have had this forceps made here, but I am informed that an identical one has been in use

in Germany for some time. This forceps is a modification of the Falta entropion forceps, but, beside the different type of hooks on the upper blade, it has the added advantage of a screw at the end by means of which the hooks can be drawn back fifteen mm., the solid under blade remaining fixed. Thus the hooks being inserted in the conjunctival side of the upper lid, as close to the cilia as possible, the everted lid is drawn back over the solid blade which is in contact with the skin of the lid. The incision is then made slightly beveled, parallel to the border of the lid and one or one and a half mm. from it, through the tarsus, until the appearance of well known blue gives warning of skin (Fig. 4). The incision is completed by joining with the original incision and the tarsus lifted from its bed by dissection. In dissecting the operator should hug the cartilage. Use either the scalpel or blunt pointed scissors. Occasionally there is considerable hemorrhage from the arteries at the inner or outer canthi, and hemostatic forceps have to be applied. Cutting these arteries is best avoided by hugging the tarsal cartilage very closely.

The sutures are then completed, the middle one first. The needles of each suture are passed from the conjunctival side through the narrow rim of tarsus and, emerging on the skin, are loosely tied (Fig. 5). The operation is now finished. There should be no wrinkling or puckering of the lid. There may be, however, inability to close the lids completely, owing to the paralysis produced by the cocaine. Sutures are removed in five or six days.

The author claims for the operative technic and instruments described the following advantages:

1. The knife having its cutting edge at right angles to the shank is easily handled, and there is no interference by any part of the orbit or face. The small cutting edge enables the operator to keep the incision in the tarsus parallel to, and equally distant from, the lid border throughout its length, and the absence of point adds to its handiness and increases its safety.

2. The forceps, by putting the lid in the stretch, enables one to do an almost bloodless operation, and facilitates the resection of the tarsus markedly.

3. The subconjunctival injection of the conjunctiva of the fornix makes a bloodless dissection of the conjunctiva and prevents postoperative adhesions.

4. The forceps with one blade mouse toothed and



FIG. 2.—Upper lid everted, injected and first incision made.

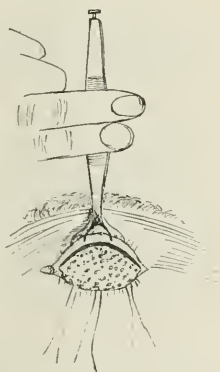


FIG. 4.—Lid forceps applied, and second incision made parallel to lid border and meeting first incision.

the other blade serrated is used in suturing. The serrated blade is applied on the skin side and the mouse toothed on the conjunctival side. It holds quite as well as the regular mouse toothed forceps, but does not cause nearly as much trauma (Fig. 1D).



FIG. 5.—Cross section of lid, showing operation completed.

Of the three hundred patients operated upon, practically all were cured as far as appearance or symptoms were concerned. In a few cases the patients, though giving no sign to the examining eye, were troubled with persistent mucopurulent discharge, very resistant to treatment. All these patients had been subjected to exposure or continued contact with trachoma cases. A few patients showed a slight shortening of the lid, due to removal of too much conjunctiva, but not sufficient lagophthalmus to produce exposure of the cornea or any harmful effect. After excision trichiasis occurred in three cases. These trichiasis cases were remedied by a second operation, the insertion of a mucous membrane graft taken from the lips. In one case a pannus developed in one eye one week after the operation, which cleared up in six weeks, whereupon pannus began immediately in the other eye. The lids were seemingly in perfect condition, without a trace of trachoma throughout this time.

There was not a single case of ptosis. In two cases healing did not take place by first intention. Masses of granulation tissue sprang up on the under surface of the upper lid, which were very resistant to treatment. Both these patients were suffering from systemic diseases. Accordingly, I should

advise that, before undertaking this operation, systemic disease, if present, should be eradicated, or at least the patient put in the best possible physical condition.

In three of the earlier cases in which operation was performed, the patients showed some slight limitations of the movements of the globe, but all such patients were operated upon before I had developed the technic outlined.

#### RÉSUMÉ AND CONCLUSIONS.

The operation of combined excision should be restricted to the upper lid. It is never necessary in the lower. It should be done under local anesthesia, except in children. It should be done with a minimum of instrumentation to reduce trauma as much as possible. Its scope is broad and applicable in all cases except the purely follicular type. In conclusion, I believe we have in this operation the only means of quick eradication of the disease and prevention of its complications and sequelæ.

Instrumentarium for combined excision: Luer hypodermic syringe, two c. c.; knife (Fig. 1A); lid forceps (Fig. 1B); two mouse toothed forceps with catch (Fig. 1C); blunt pointed scissors; curved or straight hemostatic forceps, somewhat heavier than mosquito forceps; suture forceps (Fig. 1D), one blade mouse tooth, one blade serrated; needle holder and needles.

#### REFERENCES.

1. WOOTTON, H. W.: Tarsal Resection, *Archives of Ophthalmology*, 1910.
2. HIWATARI, KAZUO: Concerning the Nature of Trachoma, *Archives of Ophthalmology*, vol. xlix, January, 1920.

70 EAST FIFTY-SIXTH STREET.

## Intranasal Operations with Special Reference to Postoperative Packing

By JOSEPH W. MILLER, M. D.,  
New York.

Before I touch upon this subject, I shall endeavor to review the history of the development of intranasal operations up to the present time. Prior to the development of modern rhinology, nasal polypi were removed by the general surgeon, with ordinary pliers and without the control of light. It is understood that other intranasal structures were greatly damaged during such a procedure, and that the smaller polypi often remained behind goes without saying.

This somewhat rough and not less radical procedure in time got into the hands of the rhinologist. Then, nasal polypi were removed under the control of light, with the aid of fine instruments and without damaging the surrounding structures. Under such management attempts to diminish the size of hypertrophied and diseased inferior turbinates by means of the electrocautery and the intranasal removal of spines and ridges of the nasal septum became the object of the rhinologists. These opera-

tions remained for a long period of time the only ones attempted by the specialists. The treatment of the accessory sinuses through intranasal routes, however, is only of recent date, but out of it grew suddenly an immense field for intranasal invasions.

With the development of intranasal operations for the treatment of the accessory sinuses, many methods which call for the use of sharp instruments were occasionally laid aside, though hypertrophic parts of the inferior turbinate were now removed in that manner instead of, as before, with the electrocautery. This procedure, especially when the cavernous structure of the inferior turbinate was injured, gave rise to great hemorrhage, and, in order to avoid such consequences, tampons were resorted to, following every intranasal operation. Also, after the use of the electrocautery, in order to avoid adhesions, packings were inserted between inferior turbinate and septum.

Recently, rhinologists have neglected this method,

and have stopped packing postoperatively; that is, if the patient did not bleed after a given time following the operation. During this period the work of the rhinologist was none too satisfactory, partly because of too radical surgical undertakings within the field of the nasal chambers, such as the reckless removal of an hypertrophied inferior turbinate, and partly because of leaving the operated nasal chamber unpacked and so exposing the patient to the danger of a severe postoperative hemorrhage.

The followers of this new and extremely radical course later on discovered that when doing any sharp operative work within a given nasal chamber, especially when attacking the cavernous structure of the inferior turbinate with cutting instruments, we must either pack the respective nasal chamber, or else keep the patient under control for a few days in the hospital. Nevertheless, it is true that the old postoperative method of packing the nasal chambers does not present the only good and correct procedure since many disagreeable consequences may result following its use. Among other results is the danger of otitis media, tonsillitis, elevation of temperature, and the storing up of fibrinous collections, the latter of which is especially the result of tight packing on the nasal mucous membrane, and may delay healing considerably.

To obviate the danger of an otitis media, one should try to impregnate the packing with strong disinfectants and astringents, such as iodoform, vioform, orthoform, aristol, or solutions such as hydrogen peroxide, iron sesquichloride and alum. Some (Struijken and Aufrecht) have used for intranasal tampons blowup rubber fingers. Other rhinologists (Brünnings and Von Eicken) made good use of the rubber sponge. But the most commonly tried packing was iodoform gauze, which is still in use at the present day. To prevent the occurrence of otitis media due to the downflow of secretions from the packing to the tubes, some recommend the insertion of the finger in the rhinopharynx and push the pendulous tampon back into the respective choana. The method of placing the finger in the posterior choanae by way of the nasopharynx is also very useful when one wishes to pack a given nasal chamber tightly for the control of a large hemorrhage. By packing against the finger, the entire nasal chamber may be packed without pushing down the gauze into the pharynx. Others resort to the use of a balloon—rhinorhynter of Laurens—in order to check severe secondary hemorrhage, and assert that it is the best method of checking the most profuse secondary hemorrhage, even though it gives rise to an annoying sensation of pressure due to intranasal tension. Von Navratil succeeded with this procedure in reducing the danger of an otitis media almost *ad minimum*. He warns, however, against the use of the posterior rhinopharyngeal packing, Belloc's tampon, following intranasal operations, no matter how profuse the bleeding, as its use gives rise frequently to a double otitis media, due to the pressure of the packing upon the muscles of the tube, thus partially paralyzing. The muscle play and suction action of the tube is thus prevented, its most important physiological function impaired, and, therefore, a wide portal of entry is opened for

the invasion of pathogenic bacteria to the middle ear. This tampon may be used in postoperative cases upon the rhinopharynx, such as following the removal of adenoids with consequent profuse bleeding. In these cases the tampon is best made of iodoform gauze, inasmuch as it aids more readily in the absorption of needless products from the operated area. It should be pointed out that Belloc's tampon must be of sufficient size to enable one to pack the entire rhinopharynx, must sit well no matter where it is placed, and the patient be kept quiet, the head elevated, a bag of ice placed behind the neck, and the patient instructed to inspire deeply. Another unpleasant condition is the appearance of tonsillitis following intranasal or postnasal packing.

Through the investigations of Most, we find that the lymph vessels of the nasal chambers communicate with those of the tonsils and other parts of the throat. It is the opinion of Fränkel (1) that the tonsillitis following intranasal operations is truly traumatic angina, the infective virus of it travels from the operative wound area through the lymph channels to the tonsils, is deposited there, and sets up an inflammation. Animal experimentation by Lenart (2) and others upon anatomical, microscopical and physiological bases tend to bear out the opinion of Fränkel.

On the other hand, Von Navratil found, after many years of clinical observation, that the tonsils were not infected by way of the lymph stream. He observed that on the second or third day following operations on the nose and throat, especially where swallowing becomes difficult, various forms of tonsillitis appear. In other words, whenever the patient refrains from swallowing he fails to press the contents entirely out of the tonsillar crypts as he does normally. The secretion remaining stagnant degenerates, invites the presence of bacteria, absorbs the same within the crypts and so flares up an inflammation. Therefore the appearance of postoperative tonsillitis rests entirely upon insufficient and faulty swallowing.

Nor are the lymph channels to blame for the transfer of the infection from the wound area to the tonsils, as has been demonstrated experimentally by some workers. These investigators have shown that, by injecting a dye into the lymph channels of the nose, pigment particles have not been found macroscopically or microscopically within the tonsils. They have been demonstrated, however, in the respective cervical glands even macroscopically. The most important means of determining the course of the lymph channels is to study the progress of metastasis from carcinoma of the nasal chambers. It is then observed that the tonsils are never involved, but that the metastasis strikes first at the respective cervical lymph glands.

Very annoying is the occurrence of fever following packing of the nasal chamber. This complication usually arises when the tampon is left in place for two to three days, and more frequently after the use of the electrocautery. But in spite of all these complications, the result of postoperative intranasal tamponage, it is rather a risky undertaking to send the patient away without any packing whatsoever, especially after partial or complete

removal of an inferior turbinate. Recently, rhinologists began to realize the uselessness of total resection of the inferior turbinate. Only in rare instances is partial resection indicated, and even then it is best to diminish its size with caustics or reduce it with the actual cautery.

The best method of procedure seems to be the following: After each intranasal operation, it is best to pack with sterile plain gauze impregnated with either sterile petrolatum or boric acid salve. This packing must be even, uniform, packed layer upon layer, and must not hang down suspended in the rhinopharynx. There is only one exception to this rule, and that is after the partial or complete removal of the middle turbinate in cases of suppurative sinusitis where tamponage is not advisable. Here drainage is the object sought, and packing, therefore, has no place; but the patient then must be under the absolute control of the rhinologist for several days. The various forms of tonsillitis are best prevented by forceful swallowing movements, the frequent gargling with hydrogen peroxide, or the sucking of formamint tablets. I have followed this method for the past two years, and never had a case of complicated otitis media, tonsillitis, secondary hemorrhage, or intracranial involvement.

On the day of the operation the patient is told to rest at home and apply ice cold compresses over the nose. On the following day he may do, if he chooses, light work, and on the third or fourth day any kind of work. The packings are removed on the second or third day and from each nasal cham-

ber on a different day, if possible. After its removal there is hardly any bleeding, and the tampon is free from bad odor.

Another good method of packing the nasal chambers, especially after resection of a distorted septum, is the use of Simpson's intranasal tampons. This form of packing is best suited to cases where the mucous membrane has been accidentally torn, as it approximates the torn edges much more securely. Also, where a piece of cartilage is inserted to cover over an accidental perforation, this form of tampon holds it in place better than any other packing. Finally, in cases where the curtain of the now approximated mucous membranes is desired to occupy a central position, this tampon gives good service. It must be pointed out, however, that these tampons, by absorbing blood and discharges from the operative area, swell enormously and give rise to a disagreeable sensation of pressure which does not give the patient a minute of comfort. These tampons, therefore, if ever used, should be removed from the nasal chambers within twenty-four to forty-eight hours, and both at the same sitting, as the removal of only one tampon will immediately push the septum to the empty side, thus giving rise to a new narrowing of a nasal chamber with a possible consequent obstruction.

#### REFERENCES.

1. FRÄNKEL: *Archiv für Lar.*, Bd. 4.
  2. LENART: *Archiv für Lar.*, Bd. 21.
- 213 HENRY STREET.

## Tumor of the Hypopharynx in a Child of Eleven Weeks\*

By D. J. GIBB WISHART, M.D.,  
Toronto, Canada.

**CASE.**—B. B., male, aged six weeks, was first seen on May 6, 1919, by Dr. Alan Brown, who kindly furnished me the following notes: The complaint when I first saw the patient was failure to gain in weight, with continuous vomiting and considerable gas.

**Family history.**—Two other children, one still-born, the other died of what the mother termed acidosis. Father not a strong man, but no organic disease. Mother very nervous and high strung, and with a congenital amputation of the forearm.

**Personal history.**—Child was full term, difficult instrumental delivery, birth weight six pounds eight ounces. Up to that time the child had been breast fed with no other accessory food.

**Present history.**—On admission the mother stated that the child had vomited continuously since birth. The amounts had been small and at irregular intervals, directly after nursing and up to the time that the baby was fed again. The vomiting was associated with considerable spasm and gagging.

**Physical examination.**—Weight five pounds thir-

teen ounces, very small infant, pale, poorly nourished and poorly developed. Heart and lungs normal, abdomen slightly distended. Liver and spleen not palpable. The little finger of the right hand had a very definite angular deformity. Breathing had always been difficult, accompanied by choking. Deep retraction of the lower costal border and suprasternal notch. The breathing was stridulous in character, accompanied by considerable secretion of mucus.

**Provisional diagnosis.**—When the infant was first seen, there was a congenital deformity of the trachea, although repeated digital examinations revealed no abnormality. During the child's stay in the hospital the weight was stationary until the last few days, when he lost six ounces. The child became progressively worse, breathing and feeding more difficult accompanied by severe choking spells in which he would become cyanosed and almost cease to breathe. The suprasternal notch showed pronounced retraction at all times. The patient died on July 5th, aged eleven weeks.

I saw the child in consultation at a private nursing home at various intervals, between May 23rd and

\*Read at the Third Annual Meeting of the Association of American Peroral Endoscopists, Boston, June 1, 1920.

the time of his death, July 5th, and Sir St. Clair Thomson was courteous enough to see the case with me on one occasion.

As stated above the infant was very thin, and badly nourished, the difficulty in breathing was inspiratory, when excited the distress was evident, and the tugging of the larynx marked. Examination with the mirror was difficult, but a portion of each cord was made out and seemed normal. The epiglottis was folded back, and its edges were flabby. Neither external or internal palpation added any information, nor was any abnormality perceived. During sleep I observed that the breathing became practically normal, it was noiseless and without suprasternal recession.

Bronchoscopic examination was not attempted as it involved removal to another hospital, and this seemed inadvisable in the child's weakened state.

The diagnosis in which Sir St. Clair Thomson concurred was congenital laryngeal stridor, and operative interference was not advised.

An autopsy was performed by Dr. Erb of the staff of the Hospital for Sick Children, Toronto, from whose report the following excerpts are made: The clinical diagnosis was laryngeal stridor, with congenital absence of trachea rings. The anatomical diagnosis was a tumor between the larynx and upper esophageal opening. There was hypertrophy of the sternohyoid, sternothyroid and hypoglossus group of muscles. A congenital fusion of right upper and middle lobes of lung was present as well as congenital malformation of little fingers.

In a dissection of anterior cervical region the thyroid appeared normal. The superficial muscles were apparently hypertrophied. The medium glosso-epiglottic fold was hypertrophied and there was a supernumerary left lateral glossoepiglottic fold. These folds would have interfered with the proper closure of the epiglottis. The larynx, vocal cords, and arytenoid cartilages appeared normal. The left pyriform sinus was considerably larger than the right. Just medial to the left pyriform sinus and posterior to the left arytenoid cartilage a tumor was present which was roughly triangular in shape and flattened from side to side from above downwards. The base of the triangle which was situated anteriorly, was formed of a cartilaginous pillar about 1.5 cm. in height and four mm. in diameter, and was located perpendicularly just posterior to the apex of the left arytenoid cartilage. The upper border of the triangle was free and measured about two cm. in length. The lower border of the triangle was formed by the attachment of the tumor of the tissues between the larynx and the upper opening of the esophagus and just lateral to the esophagus and measured about 1.8 cm in length. The left surface of the tumor was smooth, dense and almost white in color, apparently composed of fibrous tissue. The right side was thrown into numerous folds not unlike mucous membrane. The position and shape of the whole mass was such that when the head was flexed on the chest the mass fell forward into the larynx and if the head was held back and towards the right it obstructed the esophageal opening. The tracheal rings were markedly flattened from before backwards and the trachea

contained a considerable amount of blood stained mucus.

The microscopic report was a laryngeal tumor. A section was taken through the free border, a small piece of tissue removed so as not to spoil the gross specimen. The right surface of the tumor was covered with mucous membrane consisting of long thin villi. In the centre of these villi there were fairly large capillaries and the villi were covered with columnar mucous cells. The left surface of the tumor was covered with transitional epithelium which did not contain mucous cells. Towards the free border of the tumor this epithelium was thrown into folds forming large papillary projections. Underneath the epithelium the tissue consisted chiefly of fibrous connective tissue, throughout which were scattered small patches of epithelial cells, some of which tended to form glands. There was no cartilage in the section studied, but taking into consideration the fact that the apex of the tumor was definitely cartilaginous in the gross, and the fact that there was glandular tissue in the centre of the tumor it would appear that the tumor belonged to the class of congenital mixed cell tumors, arising from the posterior wall of the larynx. The thyroid was normal.

Examination of the kidneys showed a number of the tubules filled with material consisting of polymorphs, muconuclear cells, epithelial cells and cell debris. The epithelium of many of the proximal convoluted tubules showed a marked granular degeneration and the nuclei stained poorly. There was no evidence of any inflammatory change in the glomeruli. A diagnosis of pyonephrosis was made.

I have been unable to discover any other cases of mixed cell tumors of the larynx in the literature from 1913 to the present day. There are, however, several cases of cartilaginous tumor, including the following: Eschweiler (1) reported a case of cartilaginous tumor the size of a walnut, growing from the cricoid. The exact situation and the histological report, however, were not given. Salomonsen (2) also reported a case, and Roos (3) reported a case of a subglottic myxochondroma growing from the posterior part of the right wall just below the cords, in a man aged forty-four. It was covered with smooth epithelium.

Preindlsberger (4) described a case of fibroma in pyriform sinus of a peasant woman aged sixty who had had difficulty in swallowing since the age of three. She had a large pedunculated fibroma growing from the pyriform sinus.

Pollak (5) writing on amyloid tumors of the larynx reported four cases in which the tumor was an isolated growth and not part of a generalized amyloid degeneration. He also collected fifty cases from the literature, ten of these were in the form of polypi on the vocal cords. Most of the cases occurred in patients over fifty years of age, none have ever been seen in patients under twenty years of age.

#### REFERENCES.

1. ESCHWEILER: *Ver. Westdeutscher Hals-u. Ohren-gezelz.* Koeln., December, 1911.
2. SALOMONSEN: *Frankel's Archib.*, Bd. 28, H. 3, 1914.
3. ROOS: *Z. f. O.*, Bd. 62, p. 228.
4. PREINDLSBERGER: *Monatschr. f. Ohrenheilk.*, 1913.
5. POLLAK: *Z. f. Laryngol.*, 1914.

## Practical Points in the Diagnosis of Sinus Diseases from the Point of View of the General Practitioner\*

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It is my purpose to present a few of the many symptoms and diagnostic points of sinus diseases which general practitioners may find of value in their work. I wish to state that the symptoms which I shall discuss are those commonly present, and patients presenting any or all of them should be studied with a view of discovering sinus infection. At the same time we must realize that the symptoms of some infections or malignancy of the accessory sinuses are so obscure and clouded that it requires a rhinologist of considerable experience to make a complete and true diagnosis.

One symptom which is practically always present is headache, the location, severity, time of onset and departure varying according to the sinus affected. Headaches associated by infection of the maxillary sinus are reflected to the supraorbital notch and the inner canthus of the eye, and would be present at the time when the sinus acts as a reservoir for the accumulating pus. This is so when the patient is in an upright position, such as standing or sitting, and the headache would therefore occur during the day, becoming more severe until the patient assumed a recumbent position, thus finding relief. The ostium of the maxillary would be at the lowest point in this position, and would allow drainage, emptying of the sinus taking place. In contradistinction to this is the headache and pain resulting from a frontal sinusitis. This pain is situated over the supraorbital ridge, and radiates upward and backward toward the vertex. The pain is throbbing and sickening in character, and occurs when the patient is in a recumbent position, due to the lack of drainage.

Patients suffering from a frontal sinus infection will describe the pain as coming on a few hours after they have been in bed, and this continues until they are compelled through the severity of the pain to assume an upright or sitting posture. In this position, the frontal sinus is in the best position for drainage to take place, and your patients will state that after they have walked the floor or have been sitting for a half hour or more, the pain is relieved and they are again able to lie down and sleep for a few hours.

The pain and other symptoms recurring at this time, due to the sinus filling with pus, is what is known as morning frontal headache. This should be a sufficiently significant factor for the general practitioner to question the patient more thoroughly and to consider the possibility of a frontal sinus infection being present, and not send the patient to an ophthalmologist for treatment of errors of refraction, as in eyestrain, or headache resulting from eyestrain, the pain comes on after the eyes have been

used for some time; whereas, in empyema of the frontal sinus, the pain is greater after the patient has been resting in the recumbent position for a number of hours and the eyes have been in repose. At this point it is well to differentiate the symptoms occurring in a frontal neuralgia and those of frontal sinusitis. The pain of frontal neuralgia is dull and throbbing in character and continuous; that of supraorbital neuralgia is sharp, lancinating in character, and of short duration, reappearing at intervals of fifteen minutes, half an hour, or more. Frontal sinusitis always results from coryza; in supraorbital neuralgia no such history is necessary. Movements, especially those of bending forward, or muscular movements of the facial muscles, will exaggerate and increase the pain, but have no effect in a neuralgic condition. Pressure over the supraorbital nerve will relieve the pain in neuralgia, but will increase it in sinusitis. Tobacco and alcohol increase the intensity of the headache in sinus infection, and relieve it in supraorbital neuralgia.

The pain of an infection of the ethmoid sinus occurring over the parietal region is dull in character and continues in whatever position the patient may assume. There is a fullness in the nose such as that resulting from a cold, and the nares are entirely occluded by the swollen mucous membrane. The headache resulting from a sphenoid infection occurs at the occiput and radiates toward the vertex. We have also a reflex pain occurring from empyema of this sinus situated over the mastoid region, and many mastoids have been opened and found normal when the real factor was of sphenoid origin.

Discharges from empyema of the frontal, maxillary, and anterior ethmoid sinuses, will be found in the anterior part of the nares, usually covering the anterior portion of the inferior turbinate. Pus due to infection of the posterior ethmoidal cells and sphenoid sinus will be found on the pharyngeal wall, and, if of long standing, the breath will appear foul, and is characterized as ocreous.

Other symptoms directing attention to maxillary involvement will be partial or total anosmia, due to swelling of the mucous membrane, the feeling of one tooth (first molar or second premolar) being longer than the others and more sensitive, malaise, vertigo, fever, and anorexia.

Those relating to frontal infection would be tenderness on pressure over frontal region, a decided vertigo and increase of pain over this region when the patient leans forward, increase of pain in walking, the jarring of the body seemingly the cause, fever of 101° to 103°, and general malaise. A very important symptom, and looked upon by the rhinologist as a danger sign, is the swelling of the upper eyelid. Disturbances of olfaction are present, but not to the extent as that involving the ethmoid.

\*Read before St. Agnes's Hospital Clinical Society, Philadelphia, November 16, 1920.

Usually in ethmoid infection we have a decided swelling of the entire ethmoid region, and the patient has absolute occlusion of the superior portion of the nares or that part lying between the eyes. The headache, as we have already mentioned, is constant and tense in character, with occasional outshoots toward the deeper structure of the eyes. There is tenderness in the eye itself, with pain on rotation, fever, and, if both sides are involved, total anosmia.

Forgetfulness or lack of memory is perhaps more marked in sphenoid infection than in empyema of the other sinuses. This is due to the toxemia, and occurs in all sinus infections. There is also a

peculiar feeling due to the swelling of the mucous membrane resulting in occlusion of the Eustachian canals. There is tenderness of the eyeball, which, if pressed upon, seems to the patient to be back of the eye. Fever, sleeplessness, and a decided malaise are generally present.

In giving you these few but important symptoms I have used the term infection or empyema. I wish to state that all of the symptoms we have enumerated, except the discharge, may be present in a nonaeration of the sinus, and we must not be too quick in eliminating a sinus involvement because we fail to find a discharge from the nose.

1928 CHESTNUT STREET.

## A Broncholith and Pneumoconiotic Material Removed from a Bronchiectatic Cavity by Peroral Bronchoscopy\*

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Lung stones have been reported occasionally in medical literature, in some instances being found postmortem, in other instances being spat up by the patient, followed in some cases by improvement in the patient's condition. The present case is the first in which the broncholith was removed by bronchoscopy. The removal has not been followed by any improvement in the patient's lung condition.

CASE I.—J. W., male, aged twenty years, referred for diagnostic bronchoscopy. His chief complaint was cough, periodic expectoration of greenish, foul sputum. His father, mother and one brother were living and well. There was no history of tuberculous, malignant, cardiac, or renal disease. The general health of the patient had always been poor. He stated that he had had very bad catarrh since birth. The tonsils and adenoids had been removed four times: last time in Europe. The patient had had innumerable intranasal operations. Both frontal sinuses had been opened when the patient was three years old. Four years ago he had fever for two months, for which ethmoids and sphenoid were operated upon. The antra were reported free from disease. The recent diagnosis was polypoid degeneration of middle turbinates. Ten days before polyps had been removed. The patient had had measles, mumps, and scarlatina, in early childhood, bronchopneumonia twice—in infancy and four years ago; arthritis in wrists and knees.

*Present illness.*—Has had a cough since infancy without sputum until four years ago. Shortness of breath—spasmodic at times. Four years ago began spitting up large amounts (one half to one pint) of

greenish sputum which was sometimes offensive. Spat some blood during a pneumonia complicating influenza. Had never had a persistent fever. Many sputum examinations had been negative for tubercle bacilli. The patient had been gaining weight, had been to Colorado; felt better in a moderately moist climate. Radiographs had been made by many men in different cities, all of whom reported bronchiectasis and thickening; no history of aspirating or swallowing foreign body; appetite good; bowels regular.

*Physical examination.*—Thorax well formed; costal angle obtuse; expansion limited on the left side, most marked over the lower left; percussion impaired over the lower left lobe; breath sounds distant over the lower left lobe; loud rubbing friction sounds here heard. There were many loud bubbling râles on the left side of chest, most plainly heard over the lower left lobe; vocal fremitus and voice resonance increased over the left side. The heart was transposed; apex beat in the fifth right interspace nine cm. from midsternum; base of heart five and one half cm. from the midsternum in the second right interspace. Abdomen: Liver dulness on the left side; gastric tympany on right side, no rigidity or tenderness, no mass felt. The fingers were markedly clubbed; toes clubbed but less so than fingers.

*Diagnosis.*—Bronchiectasis of the lower left lobe. All viscera transposed.

*Röntgen ray report by David R. Bowen.*—There was in the first place a complete transposition, the heart bearing the same relation to the right side as it usually did to the left. The stomach was also on the right side. The arch of the aorta appeared to the right and the branching portion of the trachea to

\*Read at the third annual meeting of the Association of American Peroral Endoscopists, Boston, June 1, 1920.

the left. The various organs appeared therefore to bear a normal relation to each other except as to the transposition.

The lung findings on the right side were practically negative but on the left there was considerable increase in density, but this was much more marked toward the base. Well to the base and to the median aspect, there was a well defined cavity, rough trefoil in shape, and, at the time of this examination, practically empty. It was readily observable in the fluoroscope. One of the loculi contained a small mass of sufficient density to be readily noticeable in the fluoroscope. I hoped that I might identify this as a foreign body, for my best judgment was that it was not improbable that this mass may have partly been responsible for the continuation of the condition. I was convinced that this condition was a purely local one. The greater portion of the right and all of the left were practically free from disease.

#### FIRST BRONCHOSCOPY UNDER LOCAL ANESTHESIA.

Trachea and both main bronchial orifices were chronically inflamed. Pus came in considerable quantity from left bronchus. The left inferior lobe bronchus was much dilated, intensely inflamed, and its walls were more rigid than normal, as if thickened. The seven mm. bronchoscope went down to a depth of thirty-nine cm. from the upper teeth. Pus was coming from four different orifices. One orifice was very small and was dilated with forceps, liberating a quantity of foul pus. Sponge pumping removed a quantity of pus roughly estimated at about two ounces. There were three cavities that could be called abscess cavities; but pus was also coming from bronchi that were not far from normal size. A number of specimens of pus were removed from the abscess cavities without oral contamination. In one of the cavities there was a band stretching across which looked like a vessel. The bronchial orifices were not normal in size or position. The duration of the bronchoscopy was nineteen minutes, forty-two seconds.

*Röntgen ray examination by David R. Bowen immediately after bronchoscopy:* There was somewhat less density in the involved area than in the plates made yesterday. The densely opaque mass



FIG. 1.—A, broncholith from bronchiectatic pus accumulation removed by peroral bronchoscopy under local anesthesia; B, inorganic material from same pus. The nucleus of the broncholith A was of similar character to that of the inorganic material B.

noted then was still seen in these plates. There was apparently no other difference.

#### SECOND BRONCHOSCOPY UNDER LOCAL ANESTHESIA.

Three months later a second bronchoscopy revealed pus coming from the left inferior lobe bronchus. The opening into the cavity dilated at the first examination had not closed very much. The orifice was freely dilated and the interior of cavity wiped out with gauze bronchoscopic sponges.

Small masses of crumbling material were noted. Granular gritty material was present in the pus.

*Remarks appended to report of operation:* "There was no sign of the gritty material at the first examination. The presumption is that it loosened after the first drainage of the abscess cavity. The nature of this material cannot be determined from gross appearance. I am disinclined, however, to think

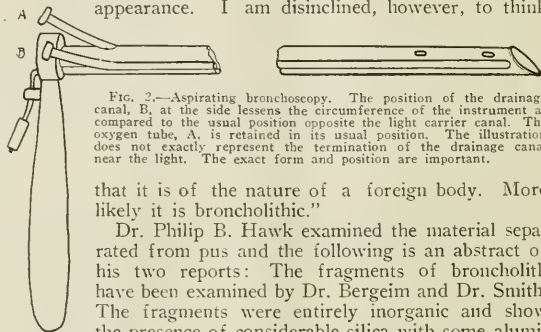


FIG. 2.—Aspirating bronchoscopy. The position of the drainage canal, B, at the side lessens the circumference of the instrument as compared to the usual position opposite the light carrier canal. The oxygen tube, A, is retained in its usual position. The illustration does not exactly represent the termination of the drainage canal near the light. The exact form and position are important.

that it is of the nature of a foreign body. More likely it is broncholithic."

Dr. Philip B. Hawk examined the material separated from pus and the following is an abstract of his two reports: The fragments of broncholith have been examined by Dr. Bergeim and Dr. Smith. The fragments were entirely inorganic and show the presence of considerable silica with some aluminum and magnesium. They are, therefore, apparently a mixture of silica and silicate of the other elements. They contain no phosphate, carbonate or oxalate and only a trace of calcium, and cannot, therefore, be a concretion formed within the body. They seem to be a sort of pumice stone. (B, Fig. 1.) The rounded body (A, Fig. 1) is a true concretion in the sense that it has been coated within the body with calcium phosphate, for which it gives strongly positive tests. The nucleus appears microscopically to be of the same character as the larger bodies, that is, a sort of pumice.

#### COMMENT.

Vaccines were made by E. D. Funk from the pus removed from the abscess cavity, and were administered for a number of months. The patient's general condition remained fairly good, and he followed his occupation; but neither the vaccine treatment nor the removal of the broncholith and the inorganic material can be said to have appreciably ameliorated the bronchiectatic symptoms. Presumably the inorganic material found in the pus of the pulmonary abscess cavity was pneumococcal material liberated by suppurative liquefaction of the lung tissue. For the aspiration and washing out of pulmonary abscesses and bronchiectatic cavities the bronchoscope shown in Fig. 2 has the advantage of a drainage canal occupying the space at the side of the light canal, instead of opposite the light canal as required for esophagoscopy and as heretofore used in aspirating bronchoscopes. For ordinary bronchoscopy, especially in children, sponge pumping is a more rapid way of removing secretions, which are usually too thick for satisfactory aspiration through the small canal available in a bronchoscope small enough to enter the bronchi of very young children. In adults and in children over one year the combination of sponge pumping and the aspirating bronchoscope maintains a clear field with great saving of time.

1830 SOUTH RITTENHOUSE SQUARE.

## Traction Pulsion Diverticulum of the Esophagus\*

By HUBERT ARROWSMITH, M. D.,  
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Zenker's definition of a traction diverticulum is one "in which the wall of the esophagus has been dragged outward by an exterior force." The first observation of such a condition was made by Rokitsansky, and consequently it is sometimes referred to as Rokitsansky's diverticulum. These diverticula have rarely been observed during life, Jackson having seen only one, and most authors state that they are without clinical importance and

seventy-three per cent. were due to tuberculous inflammation, other diseases of the lungs, pleura or pericardium, being responsible for the remainder.

These diverticula are encountered almost exclusively in the anterior or lateral walls of the esophagus, and most often about the tracheal bifurcation, often on the right side, and are usually funnel or tent shaped. They are commonly small, often multiple, the opening a long oval or slit, and they usually extend in an upward direction from the esophagus. The texture of the wall depends on the violence of the causative inflammatory process, and often the bottom of the pouch consists only of scar tissue, or perhaps a shrivelled lymphatic gland to which the diverticulum has adhered. The original inflammatory area forms a fixed point to which the esophageal wall is dragged.

The usual course is without symptoms; difficulty in swallowing is not likely to occur, and definite stricture of the esophagus has seldom been observed. Esophagoscopy alone can discover these pouches during life. As the pouch is directed upward, the bismuth meal will not be retained or perhaps even enter it, and consequently radiography will not show these ordinarily small offshoots. The potential danger in these diverticula exists in a proneness to perforation and the extrusion of food into the mediastinum, lung tissue, pleura pericardium, or atheromatous vessels; pneumopericardium may oc-

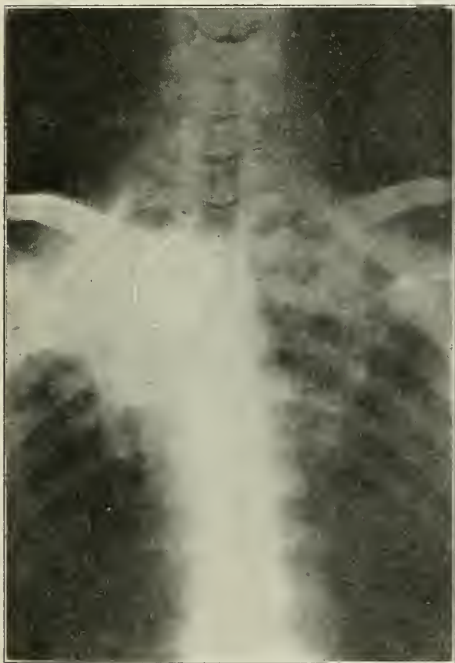


FIG. 1.—X ray photograph of traction-pulsion diverticulum, anteroposterior view.

seldom give rise to any trouble. Kraus and Ridder, in their monograph on diseases of the mouth and esophagus (published by Alfred Holder, Vienna, 1913), take an opposite view, and assert that serious possibilities may result from them.

Zenker stated that some mediastinal or intrathoracic inflammatory process, lymphadenitis, tuberculosis or cancer, pleurisy or pericarditis, must necessarily be the direct cause of these distortions; inflammatory adhesions taking place between the involved glands or new growth and the esophageal wall, and subsequent traction leading to the definite pouching. Bevermann found in sixty cases that



FIG. 2.—X ray photograph of traction-pulsion diverticulum, lateral view.

cur. According to some authors these diverticula may stand in direct etiological relation to carcinoma. Ritter draws an analogy between this possibility and the frequency with which malignant disease is found as a result of healed and scarred gastric ulcers.

\*Read at the third annual meeting of the Association of American Peroral Endoscopists, Boston, June 1, 1920.

The following case, while not a typical traction diverticulum, might be called a traction pulsion diverticulum.

CASE.—R. C., male, aged forty-seven, American. Admitted to Kings County Hospital November 4, 1919. Family history unknown. He had pleurisy twelve years ago, but recovered promptly, and was in good health up to the time of his present illness, which commenced a year ago with difficulty in swallowing. There was no hoarseness, no cough, very little expectoration. He had had no treatment, as he was merely slightly uncomfortable. Two weeks before admission he "caught cold," became hoarse, and had a severe cough, for which reasons he applied to the hospital. The difficulty in swallowing had greatly increased, and for this he sought treatment.

He had lost thirty pounds in weight since the onset of his sickness a year ago. Wassermann negative; sputum positive "1+." Physical examination: Right chest expanded much less than left, and the right shoulder appeared higher. Auscultation of left lung revealed nothing. Dullness over the right side and many whistling râles heard anteriorly and laterally, especially on inspiration. During his stay of two weeks at the hospital his temperature varied from 98° to 100°. An x ray was taken (Fig. 1). I saw him casually and

appointed a time for esophagoscopy examination, but on the date set learned that he had been transferred to St. Anthony's Hospital as a case of tuberculosis.

On my next visit to that institution I esophagoscoped him, Dr. Lynah being present. It was impossible to introduce the esophagoscope under local anesthesia; ether was given, and even then the introduction was the most difficult I have ever attempted. All relations were distorted and practically nothing was recognizable. After considerable manipulation I entered the pouch, which was very large, as the radiograph shows. Once in, it was found distended, its walls relatively rigid, the mucous membrane thickened but apparently not acutely inflamed or ulcerated. No obvious scar tissue was seen. The perijacent structures were resistant to the feel. After prolonged search the esophageal lumen was discovered. It was very small, but it was finally dilated up to about seven mm. There was a fungating mass impinging on the lumen of the esophagus. Owing to my own illness I did not see him again, but since the first instrumentation he has been able to take nourishment in sufficient quantity to cause a gain of twelve pounds. He has been entirely afebrile, with no cough and slight expectoration.

170 CLINTON STREET.

## The Report of a Case of Laryngocele\*

By SAMUEL IGLAUER, B. S., M. D.,  
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The occurrence in man of pathological air pouches connected with the larynx constitutes an unusual and interesting reversion to a primitive type. These air sacs are the analogues of similar structures, of unknown function, normally found in some of the anthropoid apes, such as the chimpanzee and the gorilla. Anatomically a laryngocele takes its origin from the ventricle of Morgagni and represents a distention or enlargement of the appendix of the ventricle. The sac is lined with mucous membrane continuous with that of the larynx. The laryngocele usually makes its way through a small opening or dehiscence in the lateral portion of the thyrohyoid membrane and appears as an intermittent swelling in the side of the neck. Very rarely, as a distinct entity, or in combination with this extralaryngeal sac there may also be an intralaryngeal pouch, appearing under the false vocal cord and extending into the lumen of the larynx. This intralaryngeal pouch is of great importance, since, when inflated, it may seriously interfere with both phonation and respiration.

Although these pouches, or at least their beginnings, are present at birth, they may not become manifest until later in life, usually as a result of a

single violent or frequently expiratory effort, as in crying, coughing, straining or in the blowing of wind instruments and the like. As time goes on frequent ballooning of the sac may cause it to become so greatly enlarged that operative interference may become necessary. Infection within the sac also demands operation. Laryngocele is usually limited to one side, but bilateral cases have been reported.

Aerocoele constitutes one of the rarest of all laryngeal conditions. According to Reich (1) up to the year 1914, but twenty-one authentic cases had been recorded. An additional case has been reported by Reich, one by Schambaugh and Lewis (2) and one by Phyyette (3).

### REPORT OF CASE.

CASE.—The following case presents many of the typical features of this condition: The patient, B. S., male, aged five and a half years, was first seen by me when he was three and a half years of age. His mother stated that when he was nine months old she noticed that whenever he cried and threw his head back a small lump, like a soft rubber ball, would appear alongside of the larynx, in the right side of the neck. At first it had the size of a hazel nut, but in a few weeks grew larger until at the age of three and a half years it had attained the size of a hen's egg. The swelling was scarcely

\*Read at the third annual meeting of the Association of American Peroral Endoscopists, Boston, June 1, 1920. The subject of this report was demonstrated before the Middle Section of the American Laryngological, Rhinological and Otological Society, in February, 1920.

visible when the child was quiet. There was no history of any disease such as whooping cough, which might have accounted for the appearance of the tumor. February, 1920, when the patient was in repose, no swelling was visible in the neck (Fig. 1), but when the patient made a forced expiratory effort as in crying or blowing, a tumor immediately appeared in the right anterior cervical triangle and extended vertically from the cricoid cartilage almost to the clavicle. Laterally it disappeared under the anterior border of the sternocleidomuscle. The swelling was about the size of a hen's egg (Fig. 2) and had a smooth, rounded contour. It was of soft, elastic, cushionlike consistency and was slightly tympanitic to percussion. It disappeared immediately when the patient was in repose (deflation). Ordinarily the neck measured nine and three quarter inches in circumference, but during inflation the circumference was eleven and three quarter inches.

During repose a profile röntgenogram showed a normal neck picture, but during forced expiration (inflation) the hyoid bone was pushed forward from the vertebral column for about half an inch, and a roughly triangular air space, with its apex

disappearing tumor in the neck, and was confirmed by the röntgenogram, by the aspiration of air, and by puncture of the sac, with the escape of air either externally or into the aspirating syringe. Laryngoscopic examination may reveal the presence of an intralaryngeal arocele.

No treatment was deemed necessary. Surgical



FIG. 2.—The appearance of the air sac in the neck when the patient made a forced expiratory effort.

intervention is indicated in these cases only for the relief of aphonia or dyspnea (or infection within the sac) and consists in free exposure and excision of the arocele with suture of the opening where the sac emerges from the air passage. Lateral thyrotomy may be necessary for the removal of an intralaryngeal arocele.

#### REFERENCES.

1. REICH, A.: *Beitr. z. Klin. Chir.*, Bd. xc, p. 619, 1914.
2. SCHAMBAUGH and LEWIS.
3. PLUYETTE: Un cas de tracheole, *Marseille Medical*, May 1, 1917, p. 552.
4. v. HIPPEL: *Zeitsch. f. Chir.*, Bd. cvii, pp. 477, 1910.



FIG. 1.—Child in repose.

upward, appeared between the inner wall of the larynx and the posterior wall of the oropharynx and hypopharynx, at the same time giving a slightly convex twist of the trachea. The patient was free from pain, dysphagia, aphonia or dyspnea.

The diagnosis of laryngocele was made from a history of the case, from the presence of an elastic

**Thoracoplasty in Tuberculosis.**—P. Ball (*Lancet*, October 16, 1920) describes (with diagrams) thirty-seven operations in pulmonary tuberculosis patients, of whom four died after operation and fifteen were cured. The author indicates the operation in unilateral pulmonary tuberculosis, other rational treatment failing. Resection of the ribs is carried out under local anesthesia through paravertebral incision, to facilitate removal of the posterior part of the ribs from the first to the eleventh, or tenth, at least.

## Diseased Tonsils as a Factor in Focal Infection\*

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Since publishing my last paper on the subject of focal infection and its relation to tonsillar disease, I am more convinced than ever of the very important rôle which these organs play as a causative factor in the production of local and systemic disease. At that time I related the histories of a dozen patients suffering from infectious arthritis, whose tonsils I had removed, and all of whom had been greatly benefited by the operation. Many articles have been written since then, substantiating practically all that I had said concerning the close relationship of diseased tonsils to joint diseases and other pathological conditions.

In the orthopedic institution with which I am affiliated I can safely say that we are better equipped, or at least as well equipped, as any such institution in the country, to study the etiology of bone and joint diseases, as we have every branch of medicine covered by having special departments, such as dental, rectal, genitourinary, nose and throat, eye, gynecological, and others, to make as complete an examination as possible. A patient who comes to our hospital with a joint lesion, for example, is sent through the various departments for a complete examination, including blood, urine and x ray, so that we are able in the great majority of our cases to arrive at some definite conclusion. Indeed, the results after removing the focus are so startling that many physicians have come to regard all localized lesions as being the seat of focal infection, and if we can isolate the focus we may cure our patient. A disturbing factor in the prognosis of the ailment, however, is the presence of secondary foci, and although the primary focus is removed, the patient is not benefited as he should be.

Infection of the tonsils, as we all know, is frequently the cause of diseased conditions, such as arthritis, acute rheumatic fever, nephritis, endocarditis, adenitis, goitre, chronic coughs, colds, and a large group of nervous disorders commonly classed as neurasthenia. It would not be amiss while on this topic to dwell on the principles involved in focal infection as related to tonsillar disease.

The tonsils are still regarded by a few of our colleagues as having a function to perform. It is asserted by them that the tonsils act as guardsmen of the respiratory tract—that they tend to gather the benign and pathogenic bacteria into their crypts and produce a secretion which destroys them, and the capsule, which is tough, prevents these bacteria and their products from passing into the system.

Now the great majority of us, not alone laryngologists but many observers engaged in research work, and who have studied this subject scientifically and not theoretically, believe it possible that these glands had a protecting influence in the past

ages of mankind, but that, due to our present mode of living and our environment, these organs have lost any protecting agency they may have possessed, and that, instead of protecting the individual from disease, they invite disease and become readily infected. The crypts become dilated easily; they fill up with cheesy and bacterial products which cannot drain away, making them a splendid breeding place for the propagation of toxins to the detriment of the patient.

The tonsils may easily become infected, as they are situated most favorably for the entrance of bacteria and in a region where myriads of disease producing microorganisms abide. The bacteria from the crypts of the tonsils break through the capsule and thereby gain entrance to the general circulation through the blood stream and the lymph channels. We know that the bacteria and their products have a tendency to invade the least resistant tissues of the body, and as the circulation in the joints is poor, compared with other regions of the body, they readily become the seat of infection. On the other hand, where we have an inherited tendency to nephritis, or endocarditis, or to former diseases of childhood or of adult life, having a tendency to weaken certain structures, these structures will be affected accordingly.

There are always two factors to be considered, viz., the virulence of the bacteria and the resistance of the individual. These will explain why, when the tonsil is filled with pathogenic bacteria, the patient will often remain free from disease. Under certain conditions, however, the bacteria which have remained dormant become active, or the resistance of the individual becomes lessened.

We have learned in the last few years of the selective action of bacteria; that certain groups attack certain localities of the body; that, in injecting certain streptococcal groups found in a particular joint, we can produce the same kind of a joint lesion and on the same side of the body. This is a very fascinating subject, but I wish to make this as practical a paper on the subject as I can.

The pathologist in our hospital, in the majority of the diseased tonsils which he examined, found mainly three groups of organisms: Streptococci viridans, hemolyticus, and a gram negative diplococcus. Occasionally secondary infections, such as syphilis or sarcoma, occur in the tonsils.

What I wish to emphasize is not the kind of bacteria or the manner in which they are carried, but that the absorption of chemical toxins from the organisms found in the diseased tonsil is capable of producing serious lesions in the nervous system, in the heart, in the kidneys, blood, respiratory tract, and in the joints. These symptoms or sequelae may be so serious that life is endangered. Improvement and cures have followed the removal of foci

\*Read before the Clinical Society of the Hospital for Joint Diseases, December 14, 1920.

of infection in numerous patients who had previously resorted to every known means of treatment.

In advising the removal of tonsils we not only protect the individual on whom the operation is performed, but also eliminate a source of infection to others as carriers. Even though the patient may show no further evidence of infection, if his tonsils harbor the bacterial groups he may communicate disease to others, and we therefore advise enucleation of his tonsils as the only radical method of eliminating them as carriers of disease producing bacteria.

Another argument in favor of removing diseased tonsils is that in the thousands of tonsillectomies that have been performed, the subsequent history of these patients prove that they are more immune to disease, and that in the case of children when attacked by disease the infections run a less severe and protracted course with fewer complications, particularly in scarlet fever, measles, diphtheria, and anterior poliomyelitis, than in those children who have not had their tonsils removed, thus proving how useless these organs must be in protecting the human economy and especially diseases involving the throat.

Having tried to demonstrate the close relationship of diseased tonsils to local and systemic disease, I shall follow this up and give you a résumé of the practical results obtained after tonsil enucleation in patients suffering from infectious arthritis in our hospital.

Out of a total of 150 patients upon whom I have operated in a little over a year as a prophylactic measure, about half of them had been suffering from hypertrophied tonsils, which caused mouth breathing, with irritating coughs and, in hospital patients having infantile paralysis, tuberculous joints, and other conditions. Seventy-five of the patients were attacked principally by infectious arthritis of one or more joints, due, in my opinion, to pathological tonsils, as all other foci had been eliminated as far as possible. Many of the tonsils in these cases at the time of operation were found to contain cheesy secretions, and pathological examination demonstrated presence of pathogenic bacteria.

Of the patients operated upon I can safely say eighty per cent. were greatly benefited by the operation, and many were cured. About twenty per cent. were unimproved, due, no doubt, to a secondary foci elsewhere in the body. After degenerative changes have taken place in a joint, removal of the focus will not bring back a normal joint, but, in my opinion, the relief of pain in that joint will allow the patient greater freedom of action, thus creating a useful limb in time after active and passive motion.

Out of this series I shall give the following histories as illustrating the type of cases we had to deal with:

CASE I.—P. B., aged one and a half years. No history of tuberculosis; Wassermann negative. The family history was negative. Admitted to the hospital September 30, 1919. The child began to walk at thirteen months. Seven weeks before admission

to the hospital, the mother noticed that the child was dragging her left leg. The family physician noted the child's condition as growing rapidly worse. The child would cry with pain at the least movement of her limbs, active or passive. The patient was referred to the New York Orthopedic Hospital, where tonsillectomy was advised. As they do not perform these operations there, the patient, having been seen by Dr. Harry Finkelstein, was admitted to our institution and put under treatment. On admission all the joints were found swollen and extremely sensitive to pain, so that the patient was in more or less discomfort and suffering constantly, also considerable limitation of motion. On examination her tonsils were found to be full of purulent secretion. Operation was advised, which I performed December 17, 1919. A vaccine was made of the *Streptococcus hemolyticus* found in the tonsils, but the patient showed such a wonderful improvement in so short a time, the pain disappearing soon after operation, that the vaccine was not needed, and the child was able to move her limbs and walk without difficulty. The results in this case were the most typical and satisfactory I have had, and are a practical demonstration of diseased tonsils causing infection of the joints and remedied by operation.

CASE II.—D. G., aged twenty-two. The previous history was negative. The patient was admitted to the hospital June 14, 1920. The patient had never been sick until six months before, when a severe attack of tonsillitis occurred, followed by an infectious arthritis of the right knee. Three months after that a similar condition appeared in the left knee joint. Seven weeks ago the hands, elbows, shoulder joints, all became involved.

Physical examination of her throat revealed diseased tonsils and a nasopharyngitis. June 4, 1920, tonsillectomy was performed under general anesthesia. Two weeks later, improvement began to take place. Within two months all symptoms had disappeared and the patient considered cured. A distinct relationship was established between the tonsil and joint disease.

CASE III.—A. S., aged twenty-two. Was admitted to the hospital July 11, 1919, with the following history:

She had been a patient in our hospital during July, 1916, with a history then of having suffered frequently from sore throat. Eight years before that she had her first attack of so-called articular rheumatism. The knees, ankles, elbows, wrists, were all affected. The patient stayed in bed three weeks, after which she was somewhat improved. This attack was followed by a severe attack of pain in nearly all of her joints, this time complicated with a systemic condition, viz., endocarditis (a typical picture of local and general infection due to diseased tonsils). An examination of her blood, however, revealed no pathogenic bacteria. Her physician, Dr. Gurtov, then advised her to take hospital treatment, and referred her to our hospital, and she was admitted in July, 1916. At that time physical examination revealed large joints, swollen and tender. Her tonsils were visibly diseased. She was put to bed and discharged from

the hospital showing some improvement. Tonsillectomy, although indicated, was not advised, as it was considered too dangerous. She was told to return for further observation, and was readmitted July 11, 1919, having had a severe exacerbation of all her previous symptoms. I then decided to remove her tonsils, telling her of the greater risk to her general health than the risk of the operation, which I performed under local anesthesia July 11,

1919. She improved almost immediately. In my judgment this was remarkable, that quite a number of such patients showed such rapid results. The swelling and tenderness disappeared within a short space of time, and she remained practically well up to the present day, almost a year and a half after the operation. This was a typical case of infectious arthritis due to pathogenic tonsils.

226 WEST SEVENTY-SECOND STREET.

## Endocrine Gland Extracts

### *Their Manufacture and Use*

By SPENCER G. STRAUSS, A. B., M. D.,  
New York.

(Concluded from page 397.)

Presuming that this is true, that most of the changes brought about are purely qualitative, it is fair to conclude that there is little need of large quantitative dosing. As is known, there is a tendency of late throughout all therapeutic work toward smaller and smaller doses, and it has been my experience in the therapeutics of endocrine extracts to obtain brilliant results after a single minimal dose. Interestingly, that same individual may show no reaction to a subsequent similar dose. E. A. Schäfer (7) states that "Others have obtained different results, and state, although in dogs small doses of extract from an exophthalmic goitre may cause increased rate of heart beat and some rise of blood pressure, this is soon followed by the opposite condition. They therefore hold that the symptoms are produced, not by excess of normal thyroid secretion circulating in the blood, but as the result of the production of a perverted secretion (dysthyroidism)."

Every individual is an individual unto himself alone, endocrinologically. It seems to me to be a sad commentary upon the fairmindedness of physicians when they insist that only those methods which have the seal of official approval may be ethically included in their armamentarium, so let us not limit ourselves to one grain or two grains and so on, as the case may be, but in the first place attempt to obtain a purely qualitative reaction.

We know from chemistry that many chemical reactions are much influenced by the presence of substances which do not themselves seem to take a part in the reaction and are left apparently unchanged after it has ceased. This is known as the phenomenon of catalysis. These catalytic agents may either increase or retard chemical action. In all probability some of the physiological expressions of endocrine activity are due to the possible catalytic nature of these ferments, inasmuch as this catalytic attribute does not depend on quantitative factors let us prescribe accordingly. Begin with a dose approximating one millionth of a grain, a dose so small as this, strange as it may seem, should not be given more frequent than every few days. If

after a trial or two no reaction is noted, use a thousandth of a grain in the same way; from a thousandth of a grain, ascend quantitatively to a hundredth of a grain, a tenth of a grain, a half a grain, and one grain, and up. The greater the quantity the more frequent may be the administration. I always begin with infinitesimal doses because, from my experience, such doses have no effect when their administration follows that of the large material doses, in all probability because of the presence of antibodies in the blood stream. Possibly, if endocrine extracts from the human species could be obtained, such antibodies would not be formed, so we must always remember that, no matter how careful the preparation has been, we are introducing into the system a foreign protein. Infinitesimal doses probably act through homostimulation of the similar human gland, whereas a large material dose, while it may act in a similar way, must also cause a decided disturbance of the remaining glands of the individual's endocrine chain by suddenly throwing into the blood stream such an unusual amount of a particular gland enzyme. Between doses wait until the patient's reaction is completed. It is poor practice to increase dose quantity and frequency because good results are obtained from small doses. Small doses act differently than do the large.

There are reasons to believe that in any therapeutic procedure the infinitesimal dose and the material dose have reverse effects, to wit: opium, which in material doses causes constipation, while in infinitesimal doses often causes intestinal evacuation, and while this latter reaction may be brought about only through the relaxation of an intestinal spasm, the fact, however, remains that you have obtained reverse effects by a quantitative variation of the dose alone, no matter how logical the explanation may seem. The entire school of homeopathy is founded on a presumption of this kind; another similar example is the therapeutic use of tuberculin in the treatment of tuberculosis. Finally, in the light of our ever increasing knowledge of the various anaphylactic phenomena, we no longer can deny the fact that massive changes may be caused by the

introduction of minute quantities of certain foreign proteins. In this connection we again find in the last mentioned volume on pages 68-69 "Trendelenburg estimated the amount of adrenalin in the blood of the suprarenal vein of a cat, and found that on the average .003 mg. was passed out of the two organs each minute. From the data thus obtained he reckons that about five mg. to the kilo body weight is formed in twenty-four hours. After draining off a large quantity of blood and thus causing a considerable fall of blood pressure, the amount of adrenalin passed a minute was not increased." G. N. Stewart states that massage of the suprarenals leads to the passage of an increased quantity of adrenalin into the blood. When the massage is light a depressor effect is cause, when vigorous a pressure effect, but, according to Hoskins and McClure, there is never so large a pressor effect as with ordinary therapeutic dosage. Hoskins and Rowley find that administration of adrenalin does not increase the excitability of the vasomotor nerves to faradization, but rather tends to depress it. With regard to the amount of adrenalin required to produce a physiological effect upon plain muscle, it may be mentioned that Cannon obtained inhibition of a strip of intestinal muscle with a solution containing one in twenty millions, and Janeway and Park observed inhibition of a strip of coronary artery of the sheep with a solution of one in fifty millions."

In treating your patient it is always essential to attempt to determine which gland is essentially to blame from the clinical picture presented by the patient, and that particular gland is used as the therapeutic basis. It should, however, be remembered that these disturbances cannot ever possibly be monoglandular and a determination must be made by the clinician of the other weak spots in the endocrine chain. In this connection a résumé of the patient's symptoms must be made at every visit because even though, for example, an indication for ovarian help may be present at the first examination of an individual who is essentially disthyroidal, such ovarian disbalance may be partly or entirely overcome by the administration of the original thyroidal medication.

For routine use, small doses of thyroidal extract, even though the diagnosis seems to place the chief blame in another direction, may prove of great value in uncovering certain unsuspected clinical manifestations, because it is probable that the thyroid gland occupies a hub position in the endocrine chain, may help reveal the weak spots more clearly. At the present time this initial thyroid feeling is used in the attempt to discover cases which are known as slightly hyperthyroidal. Of course this may be of some value, but personally I believe that in those cases which are actually hyperthyroidal the introduction into his system of such an initial dose does him an actual great harm, and further even though a positive result is obtained, there are some cases which, although they give a positive reaction to such a test, are not basically hyperthyroidal at all, as the tests would make the observer believe, but the overactivity of the thyroid gland is either relative or compensatory. In both of these groups a successful therapeutic result can only be obtained by correction

of the outlying glands which in their disorder have caused only an apparent overactivity of the thyroid gland.

After the clinician determines which gland is essentially to blame, and if the difficulty seems to be a purely functional one, correction should be begun with infinitesimal doses, at intervals, as before described. These doses are to be increased quantitatively, and parallel with the quantitative increase should be an increase in the dose frequency. In this connection it is interesting to recall that the equivalent of one millionth of a grain is to be found in the ordinary 6X potency homeopathic tablet, one thousandth of a grain in the 3X potency, one tenth of a grain in the 1X potency. It must always be remembered that when the desired result is obtained, therapy must cease immediately and entirely. This I have pointed out in an earlier article (8).

Finally, although it is being more and more freely admitted that an individual's endocrine tonus determines to a very large extent both his psychic and physical life, one must be ever cautious in the therapeutic application of this knowledge and always remember that this entire field is still in the very early stages of its development.

#### SUMMARY.

Two points I wish to emphasize again:

1. Let the manufacturers announce the exact nature of their products in all its detail so that therapeutic results may be better understood and thereby stabilized.
2. Let the physician be more willing to relinquish his very old and routine administration habits and adopt a more open mind in the use of these delicate endocrine extracts.

Let me express my appreciation of the courtesy shown me by the following gentlemen in their willing cooperation with me in the preparation of this paper: Dr. Eugene Hall and Dr. Waldecker, Mr. H. E. Haines, Mr. David Klein, Mr. C. S. Oakman, Mr. H. A. B. Dunning, Mr. Henry T. Perry, of New York.

#### REFERENCES.

1. ROTH, G. B.: Pituitary Standardization, United States Public Health Service, *Hygienic Laboratory Bulletin* No. 109, December, 1916.
2. SPAETH, R. A.: The Standardization of Pituitary Extracts, United States Public Health Service, *Hygienic Laboratory Bulletin* No. 115, October, 1918.
3. TATUM, A. L.: Study of the Distribution of Iodine Between Cells and Colloid in the Thyroid Gland, *University of Chicago Laboratory Bulletin*, 1920.
4. FENGER, F.: On the Presence of Active Principles on the Thyroid and Suprarenal Glands Before and After Birth, *Journal of Biological Chemistry*, vol. xi and xii, June and July, 1912.
5. JANNEY and HENDERSON: Concerning the Diagnosis and Treatment of Hypothyroidism, *Archives of Internal Medicine*, vol. xxvi, September, 1920.
6. HARROWER, H. R.: *Practical Organotherapy*, p. 29, The Hartwood Laboratory, 1920.
7. SCHAFFER, E. A.: *The Endocrine Organs*, p. 39, Longmans, Green & Co., 1916.
8. STRAUSS, S. G.: Thyroidal Constipation, *NEW YORK MEDICAL JOURNAL*, February 14, 1920.

46 EAST SEVENTY-FIFTH STREET.

# Editorial Articles

## OPERATIONS ON TONSILS AND ADENOIDS IN OUTDOOR CLINICS IN ENGLAND

A considerable amount of discussion has taken place recently in the British medical press concerning the risks and complications of operations on tonsils and adenoids when performed in outdoor clinics. To appreciate the extent of the problems involved one has to realize that affections of the upper respiratory tract are relatively more common in England than in this country; no doubt peculiarities of the English climate have to bear a large share of responsibility for this state of affairs. On the other hand, hospitals find it impossible to provide more than a mere fraction of the number of beds that would be required to accommodate all cases in need of operation. Furthermore, it must be remembered that city owned hospitals hardly exist in England. These institutions are supported by charity; and, while voluntary contributions have not as a rule kept pace with the increase in working expenses, all hospital authorities insist on remaining independent of official control. As a result, but few institutions are able to plan extensions to meet increasing needs of the districts they serve.

The rate supported poor law infirmaries serve totally different purposes and thus cannot assist the solution of the present problem. Another annoying feature is the complete lack of ward accommodation for patients belonging to the middle classes. For them the cost of an operation at a nursing home, or even in their own home, is often prohibitive, while charitable institutions reserve their services for the poor section of the community exclusively. In other words, the provision of beds and medical service at low rates, which is a familiar feature of institutions in this country, has been almost completely neglected in England. A notable step to remedy this defect has been taken by the city of Bradford with results said to be satisfactory both to the public and to local medical practitioners.

Under such conditions the vast majority of children have to be operated on as outpatients. It has been pointed out that they are exposed to unnecessary risks before, during, and after operation, while inpatients are prepared carefully by the trained nursing staff, all preoperative measures have to be entrusted to the unfortunate outpatient's mother; only rarely the help of an overworked municipal nurse can be obtained. It is at this stage of the proceedings that misguided affection so

often proves stronger than scientific reasoning and detailed printed instructions. But too frequently the little patient appears at the operating table fortified for the ordeal by a meal, often of strange composition and surprising quantity.

The choice of anesthetic is likely to be determined rather by pressure of time than individual considerations. Finally, after the operation is over, outpatient clinics can offer but short hospitality to their patients for recovery. Several surgeons have described the horrors of the recovery room and of the early street car or train journey home.

Results obtained by such arrangements have been compared with records of inpatients at Bristol Royal Infirmary. Mr. E. Watson-Williams showed in an article published in the *British Medical Journal* of December 11, 1920, that the morbidity among children operated upon in the outpatient department of the infirmary was more than four times as great as among inpatients. Classing as morbid all cases where definite complications occurred, Mr. Watson-Williams had ten cases of morbidity among 239 outpatients, and one death, traced directly to septic infection after operation for tonsils and adenoids; while, on the other hand, there occurred only one instance of definite morbidity among a hundred inpatients. These figures gain in significance, when it is realized that only children of poor physique, or those otherwise handicapped could be admitted as inpatients. The reverse applies to outpatients; no sickly child nor one living at any distance from the hospital was accepted for operation.

Further precautionary measures taken included the distribution of printed instructions to parents describing in detail what they were expected to do before and after operation; further, the children were carefully inspected before they were permitted to leave for their homes and warm wraps were secured for them. They were also ordered to reappear for examination on the fifth and twelfth days afterward, and antiseptic lozenges were provided. This description may be considered to give a typical picture of the state of affairs at clinics in all parts of Great Britain. All efforts to remedy conditions have been hampered by lack of adequate funds. In the meantime surgeons will have to continue their work, for operation will usually be the lesser evil.

The present discussion is vested with a special topical interest. The State is ever extending its control over medical practice. Now, the Ministry

of Health, through officers of the medical school service and through its medical officers of health, insists that children requiring removal of tonsils and adenoids shall be operated upon. Naturally, therefore, it is argued that, if the State urges operation, it must also undertake to provide facilities for treatment, inferior in no way to the best obtainable, to such parents who cannot themselves bear the necessary expenses. Important and intricate problems like these will no doubt arise frequently in the course of the further development of State medical service, and discretion and adaptability will have to be exercised by all concerned before the high ideals aspired to, can be attained.

### PROGRESS IN CANCER RESEARCH AND TREATMENT

During the past year new theories as to the causation or rather the origin of cancer have been advanced. For example in the December issue of the *Prescriber*, an abstract was given of a communication by Dr. A. Paine, who considers the disease to be due not to a specific parasite, but to a disordered growth of epithelium caused by various irritants. In accordance with this point of view, degeneration of the nobler parts of the cell is the result of damage to its structure, which is followed by metabolism and persistent overgrowth. Dr. I. C. Clare in the *Lancet*, December 25, 1920, agrees in the main with this theory although he differs as to the cause of the degeneration of the cell. In his opinion this is not brought about directly by inflammation or other forms of irritation, but is rather the result of an effort to respond to the destructive effect of inflammation prolonged beyond the regenerative powers of the tissue. However, this power is not unlimited, and varies in different tissues according to their normal necessities and in different individuals in corresponding tissues.

Dr. U. G. Webb, in the *Practitioner*, November, 1920, brings forward the theory that cancer is a new growth due to preexisting embryo cells being stimulated into abnormal development by conjugation with ova, or sperm cells of other animals accidentally introduced, that such animals are probably invertebrates, and possibly of more than one kind. This may be expressed in fewer words by saying, that cancer is a hybrid between a human cell and one of a lower order. He further points out that a fertilizer as well as suitable soil is necessary. For instance, cancer of the cervix uteri is rare in virgins, the soil is unsuitable and he suggests that access for a fertilizer is easy. Ova and sperm cells can reach the respiratory and digestive tracts without difficulty. Ova deposited about the vulva might

easily be conveyed to the uterus during coitus, or even by a vaginal syringe. Access to the mammary gland could be had either through the lacteal ducts or those of the glandulæ lactiferæ aberrantes. Dr. R. M. McCarrison, who has made a great reputation by the investigation of the causation of goitre and other forms of thyroid disease, in the course of experiments on the effect on monkeys of food deficient in vitamine he found a carcinoma developed in one of the animals which to all appearances was absent when this particular diet was begun. He therefore suggests the possibility of a connection between cancer and the absence of this food product.

So far as treatment is concerned, perhaps the general view of authorities on the subject is largely in agreement with the majority of those who took part in a discussion on cancer research at the meeting of the British Medical Association at Cambridge in June last and which was commented on in our report of that meeting. That is, treatment, as far as is known, should consist of a judicious combination of surgery and irradiation. It may be said that while there are a few forms of malignant disease which appear to be amenable to treatment by irradiation, as a rule this treatment shows its best effects in combination with surgery. Mesothorium has been used with some success, according to Carnot and Guillaume, as stated in the *Prescriber*, April, 1920. When injected, this drug appeared to relieve the condition in several cases of inoperable cancer. Of all the drugs tried recently preparations of copper seem, perhaps, to hold out the greatest promise. The use of trypsin has been revived it is said with a certain measure of success.

A review of the progress in cancer treatment would be quite incomplete without referring to the rôle of radium needles in treatment. Dr. C. Regaud in the *Paris Médical*, February 7, 1920, gives a description of his method of radium puncture, which consists of the implantation of needles charged with radium, while he says that the time is too short to speak of cures, at the same time, there have occurred at least temporary remissions in the cases, all of which were inoperable. Dr. Regaud looks upon the method as marking a forward step in the treatment of malignant growths, and one affording great possibilities. At the last meeting of the American Therapeutic Association, Dr. William L. Clark described his early experiments in attempting to devise radium needles that would be suitable for the treatment of malignant disease. The needles in malignant disease did not cause necrosis and sloughing unless the exposure was too prolonged. Unless the tissue was very much devitalized the needles could be left in for twenty-four

hours without causing sloughing. The use of the needles had made many things possible which were not possible without their use. It was impossible to remove successfully malignant growths from the mouth and metastatic glands of the neck because of the migratory cells, but the needle might be inserted right into the gland which was absorbed, inhibited, retrogressed and disappeared. It appears from the experience of Dr. Clark that in the treatment of malignant disease radium needles will have a fairly wide range.

#### PHYSICIAN AUTHORS: DR. TOBIAS GEORGE SMOLLETT

Dr. Tobias George Smollett is a horrible example of the fate that overtakes those unlucky physicians who are so unfortunate as to lack a "good bedside manner." At least, that was Smollett's own view of the matter, and surely he was well qualified to know. He was one of the most conspicuous failures the medical profession ever had, and if ever a physician lacked the "good bedside manner," he was that physician. Of what avail were eminent scientific qualifications—which his biographers assure us he possessed—against an irascible temper which worked twenty-four hours a day and played no favorites? Of what use was superior ability in the pursuit of the great god Success when a man was given to stinging right and left on the slightest provocation? No wonder that Smollett's skill was as useless as a clock without wheels. According to the old saw, talent is something but tact is everything, and Smollett was a living proof of the truth of it. There was not a jot or tittle of tact in his whole system. And this is a fatal defect, not only among physicians but all others as well. One doesn't have to read many pages of Smollett's writings to discover the fact that he was far from having a sweet disposition. He was as brutally frank in his speech as he was in his writings. A physician, he tells us, (in *The Adventures of Ferdinand, Count Fathom*) must ingratiate himself with apothecaries and ladies' maids—as well as with the ladies themselves. But Smollett ingratiated himself with nobody. It was his habit to antagonize everybody. And so, where others of lesser qualifications were eminent successes, he was an absolute failure. Certainly it pays to keep a civil tongue in one's head.

Despite his lack of medical success, Smollett clung to his profession with grim determination long after he had become a success as a novelist. It is noteworthy, too, that throughout his life medical men were his chief, almost his sole, cronies—this despite his bitter attacks on the whole medical pro-

fession, in print and otherwise, assailing individual members of the profession in pamphlets, holding them up to ridicule in his novels, calling all doctors quacks and fools. Notwithstanding all this, his closest friends were doctors. Dr. John Moore, famous as the author of *Zeluco*, the novel which inspired Byron's *Childe Harold*, was his confidante and biographer and traveled with him extensively. Smollett never was a member of a literary circle. As a rule he kept himself aloof from the writing fraternity, whom he flayed as mercilessly as he did the doctors. His intimates to the end of his days were the men who had succeeded in the profession where he had failed.

It was not until 1753 that Smollett definitely gave up medicine. The *Adventures of Roderick Random* had appeared in 1748 and *The Adventures of Peregrine Pickle* in 1751. These two novels, with *The Expedition of Humphrey Clinker*, which did not appear until the year of his death (1771), are the three living products of his vast literary output. Of course, he left the profession in a blaze of anger with a pamphlet on *The External Use of Water* as his valedictory. He had gone to Bath, noted since ancient times for its mineral springs, to practise, hoping to find there a more lucrative field among the swarm of invalids who frequented the resort than he had found in London. He was doomed to disappointment and returned to London full of disgust to make his last stand. He gave up at last when he couldn't make enough to support a chariot (not the sort you see at Barnum & Bailey's). "A chariot," he insisted, "is necessary to every raw surgeon," adding that a "walking surgeon" was considered as an "obscure pedlar."

But if the medical profession did not afford Smollett an abundance of what the scoffers are wont to call filthy lucre, it at least furnished him with a wealth of material for his novels. Truly, he gave the man of medicine a flying start as a prototype in narrative fiction. As he had been a surgeon's mate, so was Roderick Random a surgeon's mate, and many of their experiences, we may safely assume, were identical. Roderick was but one of a host of medical characters in Smollett's writings. The crabbed old doctor dwelt much on disease and deformity, physical sufferings and weaknesses. He seemed to revel in them and, all in all, there is little doubt that he overdid it.

Smollett's medical career began in Glasgow, Scotland, where, in 1736, after having been educated at Glasgow University, he was apprenticed to a noted surgeon. He was then fifteen years old, having been born in 1721 at Dalquhurn, Dumbartonshire, Scotland, where his family were petty lairds. Three

years after his apprenticeship he went to London with a poetic drama, *The Regicide*, based on the life of King James II, in his pocket. This trip to London forms the first part of *Roderick Random*. He joined the navy when theatrical producers in London manifested a cold indifference toward his play. He was not long in the navy. He joined it in 1741 and served on the Cumberland during the siege of Cartagena, the chief Spanish stronghold in America. When the siege was given up as a lost hope he quit the service and lingered in Jamaica long enough to pick up a wife, Anne Lascales, whose small fortune aided him later in his efforts to establish himself in practice in London and Bath. When he returned to London from Jamaica he set up in practice in the then fashionable Downing Street. All this time he was without a degree. It was not until 1750, when he was about thirty, that he received his degree at Marischal College, Aberdeen, Scotland.

Smollett was one of the three pioneer novelists of England—or of Europe, for that matter. It seems incredible that less than two hundred years ago there wasn't any such thing as a novel in English literature. Samuel Richardson's *Pamela* was the first, quickly followed by Henry Fielding's *Joseph Andrews* and Smollett's *Roderick Random*. These three men immediately put the novel in the front rank as the chief favorite of the reading public. Poetry, essays, dramas—all had to take a back seat. Fiction, the infant prodigy, vanquished them all at one fell swoop. "It is very important to note," says Edmund Gosse, "the curious diverging between these three great writers, because they exemplified the three great classes into which almost all subsequent novels can, with more or less ease, be divided." Smollett's specialty was caricature. He is conceded to be the greatest English caricaturist, other than Charles Dickens, in English literature, and Dickens was one of Smollett's disciples. "Without Smollett," says Gosse, "Dickens would be no more what he is than Thackeray would be without Fielding."

Naturally, Smollett's influence on English literature has been tremendous. For one thing, the immense crop of sea fiction began with Smollett's *Roderick Random*. In it he gave the first living picture of the life of the seafaring man. The sea and the men who live upon it had figured, of course, in English literature since Chaucer, but it was Smollett who introduced the British tar as a new and vital character. Sailors and the sea figure in his stories almost as much as medical men. Smollett did a vast amount of writing of one sort and another, both before and after he gave up medical

practice. Odes, dramas, essays, histories, translations, medical treatises, books of travels—in all something near a hundred fat volumes. Much of this was back work in which Smollett had assistance.

None of his fiction is genteel reading. Anyone of a squeamish turn of mind had better keep away from it. That is why Time has played such havoc with his popularity. He is too gross even for many seasoned readers. His heroes invariably are libertines and ruffians; his heroines, as Andrew Lang puts it, "are regarded by his heroes rather as luxuries than as ladies." Indecencies and grossness abound in his stories, but he certainly gave us a vivid picture of how the other half lives. As a novelist he contributed nothing to the form of the novel. His was the old, rambling style, the "picaresque" type of story. It was in the content of his work, the matter and his treatment of it, that makes him important in literary history. It was Fielding who established the form of the novel. Smollett's works were merely a string of sometimes brilliant episodes. But both, by developing the actual life around them, left the novel supreme in English imaginative fiction.

#### THE TYPHUS SITUATION

The following is an abstract of the report issued by the Public Health Committee of the New York Academy of Medicine. The recommendations they suggest are vital and timely. Typhus should not be allowed to gain a foothold in this country.

The occurrence of typhus fever in New York City is not an extraordinary event. At no time has the city been entirely free from typhus fever. It has lingered here endemically for years, appearing in the mild form called Brill's disease. In 1917 twenty-four cases were reported, and in 1918 thirteen cases. In connection with these cases the Health Department report states that 'none of those affected were recent immigrants nor had they been in contact with those who had recently arrived in this country.' Among the cases also which have recently occurred, some are reported to be of local origin and not in any way connected with the cases originating on the other side.

The segregation of the sick from the healthy, and the destruction of the carrier which is known to be the louse, particularly the *pediculus corporis*, are essential to prevent the dissemination of the disease. As typhus fever during epidemics may affect individuals in such a mild form as to escape the detection even of trained physicians, and as infected lice may be carried from districts where epidemic typhus exists and may thrive on the bodies and in the clothing of those who are naturally immune or who have become so after an attack of the disease, no other method than the destruction of all lice living on the persons and in the clothing or bedding of those who come from typhus infected districts, will prevent the transmission of the disease.

It is essential that disinfection should be applied to all immigrants coming from countries where the disease is prevalent, whether arriving on typhus ships or on ships free from typhus.

It is imperative that this process should be applied at the port of embarkation, to prevent as far as possible the infestation of persons and ships. As an additional precaution, it would be most desirable to reexamine, during the course of the voyage, all those immigrants who before embarkation went through the delousing process, and immediately to subject such as were still infested, together with their clothing and effects, to a delousing process while still on board. On arrival here, those individuals on whom lice were again found, together with their clothing, bedding and effects, should be once more subjected to cleansing and delousing.

The necessity of preembarkation measures has been recognized by the United States Public Health Service. No vessels sailing from foreign ports receive bills of health from American consuls until the passengers have been satisfactorily disinfested. That this requirement should be strictly enforced is distinctly to the advantage of the steamship companies, as an outbreak of illness among the passengers results in clearing delays and involves extra expense at American ports of disembarkation. The sanitary authorities have always been on guard against the introduction of typhus from abroad, and particular watchfulness has been exercised since our troops began to return from Europe. The effects of the sanitary cordon established have been salutary, as the methods of control are well known, and by their diligent application typhus fever can be well held in check.

No imminent danger of the spread of typhus fever exists. Nevertheless, no effort should be abated on the part of the Federal and local health authorities, each in their respective fields, to minimize the possibility of the introduction and spread of the disease.

Because of the existence of the endemic type of typhus fever in this city, if for no other reason, the efforts of the City Health Department should be directed toward the elimination of pediculosis, from which a considerable portion of the city population suffers. The reports of school inspections show that every year over 200,000 children are found to be infested with lice. It would seem, therefore, that no effort should be spared to rid our own population of the extensive prevalence of pediculosis.

#### GROUP CONSULTATION CLINICS.

The New Poor, who, like the doctors, make no more than before the war, wrinkle their brows at this idea of group consultations. That convenient man, the general practitioner is becoming extinct, he is now a particular practitioner, who will quickly refer you to a specialist, sometimes because electrotherapy is required or pictures must be made to get a correct diagnosis. It has long been urged that more buildings should be used entirely as offices by medical men, so facilitating the sending of a patient quickly to a confrère, then adding the opinions together before deciding on treatment.

The group consultation clinic has been formed by the New York State Department of Health, with the State Department of Education, the State Hospital Commission, State Commission for Mental Defectives, State Charities Aid and the American Red Cross to give aid to doctors in the country sections of New York State. The divisions are pediatrics, orthopedics, chest, adult life, neurology, psychiatry, mental deficiency, surgery, gynecology, venereal disease, oral surgery, with a well equipped laboratory and x ray. The clinic only takes those patients referred by doctors. A nurse visits the patient beforehand and arranges for any preliminary tests and the taking of the patient to the clinic, to which the family physician is also invited to confer. The evening after the clinic a meeting of the consultants is arranged for, when the more interesting and unusual cases are discussed. The consultant in the original division gathers all the opinions and sends to the doctor who sent the patient. Up to the present the idea is taking root and flourishing though we can foresee endless difficulties ahead from the patient's point of view.

#### News Items.

**Harvey Society Lectures.**—Dr. S. B. Wolbach, associate professor of pathology and bacteriology, Harvard University, delivered the eighth Harvey Society lecture at the New York Academy of Medicine, Saturday evening, March 12th. His subject was Typhus Fever and Rickettsia.

**\$10,000 for Radium Fund.**—The Marie Curie Radium Fund Committee received recently a check for \$10,000 from a woman who had been cured of cancer through the application of radium. The committee is raising \$100,000 with which to provide Mme. Curie with one gram of radium, that she may continue her experiments.

**President Harding's Personal Physician.**—Announcement is made that Dr. Charles E. Sawyer, of Marion, Ohio, the Harding family physician, will be appointed a Brigadier General in the Army Medical Reserve Corps and assigned to active duty at the White House as personal physician to President Harding. Through this assignment to active duty Dr. Sawyer will be able to draw the pay and allowances of a brigadier general of the army. The pay amounts to \$6,000 a year and the allowances, which are for quarters, light and fuel, will increase his emoluments to \$7,512.

**Personal.**—Dr. Smith Ely Jelliffe, of New York, was made an honorary member of the Société de Médecine Mentale de Belgique, at its recent reunion.

Dr. Pearce Bailey, of New York, who was chief of the division of neuropsychiatry in the Surgeon General's office, Washington, D. C., during the war, has been awarded the distinguished service medal.

Professor Jules Bordet, to whom the Nobel prize in medicine was awarded recently, has been elected a member of the Belgian Senate.

Dr. Edward A. Spitzka, of New York, announces that on March 1st he assumed his new duties in the Neuropsychiatric Section, Medical Division, War Risk Insurance Bureau, Washington, D. C.

**Admiral Grayson Naval Dispensary Chief.**—Rear Admiral Cary T. Grayson, President Wilson's personal physician, has been ordered by the Navy Department to duty as officer in charge of the Naval Dispensary in Washington, D. C. He relieves Captain J. B. Dennis, who has been transferred to the hospital at Great Lakes, Ill.

**Dr. Gilbride Elected Surgeon to Mercy Hospital.**—At the last meeting of the staff of Mercy Hospital, Philadelphia, Dr. John J. Gilbride was elected surgeon to the hospital. He was formerly assistant professor of surgery and assistant demonstrator of anatomy in the Medico-Chirurgical College, and was also connected with the Philadelphia Polyclinic and the Graduate School of the University of Pennsylvania. He will have charge of general surgery at Mercy Hospital. His assistants are Dr. F. M. Hopkins and Dr. F. Fortune.

**Annual Dinner of New York University Alumni.**—The New York University Medical College Alumni will hold their second annual dinner at the Hotel Biltmore, New York, on Thursday evening, March 31, 1921. Dr. Robert J. Carlisle is president of the association. The committee in charge of the arrangements for the dinner are: Dr. Robert J. Wilson, chairman; Dr. Herman A. Haubold, and Dr. John A. Mandel. The dinner will be the occasion of class reunions. Last year the oldest class represented was the class of 1869, and it is expected to go back further than that at this year's dinner.

**Postgraduate Course in Infectious Diseases and Public Health.**—The third annual postgraduate course in infectious diseases and public health for health officers and physicians, offered through the cooperation of the Albany Medical College and the New York State Department of Health, began on March 3d under the direction of Dr. Charles C. Duryee, of the State Department of Health. Registration was limited to graduates in medicine, and as far as practicable the course consists of informal conferences and practical demonstrations. The laboratory demonstrations will be held at the State Laboratory, and the conferences and lectures at the Albany Medical College and the Albany Hospital, on Thursdays and Fridays, March, April, May and June, the final examination being held on June 17th.

**Changes in the Faculty of New York University.**—The appointment of twenty-seven new members to the faculty and several promotions have been announced by the registrar of New York University. In the medical school the appointments are as follows:

Dr. Paul Edward Bechet, instructor in dermatology; Dr. David E. Boas, lecturer on nervous diseases; Dr. Wesley Marshall Hunt, instructor in otology; Dr. Alexander T. Martin, instructor in pediatrics; Dr. William J. Tiffany, instructor in neuropathology; Dr. Jay Dashiell Whitham, instructor in otology. The following promotions were announced: Dr. John J. Rothwell, from lecturer in dermatology to clinical professor of dermatology; Dr. A. Raymond Stevens, from instructor in surgery to clinical professor of genitourinary surgery; Dr. Abraham Zingher, from instructor to lecturer on bacteriology.

## Died.

**BECCERRA.**—In Guayaquil, Ecuador, on Thursday, March 3rd, Dr. Leon Becerra, Chief Health Officer of Guayaquil.

**BRENNEMAN.**—In Saxton, Pa., on Friday, February 11th, Dr. Michael B. Brennenman, aged eighty-two years.

**BUSHONG.**—In Philadelphia, Pa., on Saturday, February 26th, Dr. George L. Bushong, aged thirty-eight years.

**CAMERON.**—In Dublin, Ireland, on Sunday, February 27th, Sir Charles Alexander Cameron, aged ninety-one years.

**CHILD.**—In Brooklyn, N. Y., on Wednesday, February 23rd, Dr. Edward Moses Child, aged sixty-nine years.

**DEHOFF.**—In York, Pa., on Wednesday, February 16th, Dr. John D. Dehoff, aged seventy-three years.

**DODDS.**—In Sanford, Fla., on Tuesday, February 15th, Dr. Benjamin Claude Dodds, of Huntingdon, Tenn., aged thirty-nine years.

**FOSTER.**—In Portland, Me., on Thursday, February 17th, Dr. Barzillai Bean Foster, aged seventy-three years.

**GARDINER.**—In Philadelphia, Pa., on Monday, February 28th, Dr. George W. Gardiner, aged sixty-nine years.

**GARRETT.**—In Los Angeles, Cal., on Friday, February 18th, Dr. Edward H. Garrett, aged forty-eight years.

**GERHARD.**—In Angelica, Pa., on Monday, February 21st, Dr. Tobias Gerhard, aged eighty-five years.

**GIFFORD.**—In Haddonfield, N. J., on Friday, February 25th, Dr. Charles W. Gifford, aged eighty-one years.

**GREENE.**—In Berkeley, Cal., on Wednesday, February 16th, Dr. Frances M. Greene, aged fifty-seven years.

**GROOM.**—In Bristol, Pa., on Sunday, February 20th, Dr. Evan J. Groom, aged eighty-eight years.

**HAYDEN.**—In Bethel, Ind., on Sunday, February 13th, Dr. John H. Hayden, aged eighty years.

**HUMPHREY.**—In Port Allegany, Pa., on Saturday, February 12th, Dr. Victor O. Humphrey, aged thirty years.

**JACKSON.**—In Madison, Wis., on Friday, February 11th, Dr. James Albert Jackson, aged eighty years.

**JACKSON.**—In South Livonia, N. Y., on Thursday, February 24th, Dr. Katherine J. Jackson, of Dansville, aged eighty years.

**JONES.**—In New York, on Saturday, February 26th, Dr. William J. Jones, aged forty-eight years.

**KANZELER.**—In Ogden, Utah, on Thursday, February 17th, Dr. Reinhold Kanzeler, aged thirty-eight years.

**KLEPHER.**—In Altoona, Pa., on Tuesday, February 22nd, Dr. Ralph C. Klepher, aged sixty-five years.

**KROZER.**—In Baltimore, Md., on Tuesday, February 22nd, Dr. John R. Krozer, aged ninety-four years.

**LEMON.**—In Milwaukee, Wis., on Tuesday, February 22nd, Dr. Charles H. Lemon, aged fifty-eight years.

**LIGGETT.**—In Winnemucca, Nev., on Tuesday, February 8th, Dr. Wilbur T. Liggett, aged sixty-seven years.

**MCBRIDE.**—In Ravenna, Ohio, on Sunday, February 20th, Dr. Marion G. McBride, aged sixty-two years.

**MCGUIRE.**—In New York, on Monday, February 28th, Dr. Francis A. McGuire, aged sixty-seven years.

**MCLEAN.**—In Chicago, Ill., on Friday, February 11th, Dr. Malcolm B. McLean.

**MANN.**—In Buffalo, N. Y., on Wednesday, March 3rd, Dr. Matthew D. Mann, aged seventy-six years.

**SKILLERN.**—In Ardmore, Pa., on Thursday, February 17th, Dr. Samuel Ruff Skillern, aged eighty-six years.

**STEVENS.**—In Malden, Mass., on Wednesday, February 23rd, Dr. Andrew J. Stevens, aged seventy-four years.

**SULLIVAN.**—In Providence, R. I., on Sunday, February 13th, Dr. Walter G. Sullivan, aged forty-six years.

**TABER.**—In Brooklyn, N. Y., on Monday, February 21st, Dr. J. Russel Taber, aged seventy years.

**THOMPSON.**—In Philadelphia, Pa., on Friday, February 18th, Dr. John R. C. Thompson, of Bridgeton, N. J., aged sixty years.

**VENABLE.**—In Franklin, Ky., on Monday, February 21st, Dr. Charles L. Venable, aged fifty-three years.

**WATSON.**—In Clifton Springs, N. Y., on Tuesday, February 15th, Dr. Frederick C. Watson, of Cazenovia, N. Y., aged forty-nine years.

**WINSTON.**—In Valley Head, Ala., on Thursday, February 10th, Dr. John Nelson Winston, aged eighty years.

## LONDON LETTER

(From our own correspondent.)

LONDON, February 9, 1921.

*The Postgraduate Question in London—The Role of Temperature in the Causation of Malaria—Roll of the Midwives—The Housing Question in Great Britain—Anthrax from Shaving Brushes.*

Properly organized postgraduate teaching is required in London, if this city is to take its rightful place as the European centre for such instruction. It has been pointed out on several occasions that, as regards wealth of clinical material and men fitted to teach, London is unsurpassed, but all the advantages possessed will go for nothing, and the German schools will come to the front again unless systematic organization is introduced here, and practical steps to bring this about must be taken promptly. It is, therefore, encouraging to learn that the announcement has just been made that the Minister of Health has appointed a committee to inquire into the whole question of postgraduate education in London. The Earl of Athlone, brother of Queen Mary and chairman of the Middlesex Hospital, will act as chairman of this committee, and the following members of the medical profession will act with him: Mr. H. J. Cardale, M. B., Sir Wilmot Heringham, M. D., Sir George Makins, F. R. C. S., Sir George Newman, M. D., chief medical adviser to the Ministry of Health, Sir E. Cooper Perry, M. D., Mr. J. Dill Russell, M. B., F. R. C. S., and I. W. Shore, M. D.; Mr. A. L. Hetherington will act as secretary of the committee. The subject of inquiry will be "to investigate the needs of medical practitioners and other graduates for further education in medicine in London with a view to submitting proposals for a practical scheme for meeting them."

The *Bulletin of the Fellowship of Medicine and Post-Graduate Medical Association*, of February 5th, commenting upon the move by the Ministry, points out the fact that the State's concern in the matter requires little demonstration. Postgraduate instruction is a channel by which medical progress is made available for the population; practitioners in the daily routine of their work have no time for textbook reading, or for gaining knowledge of the newest advances in their profession, or even, it may be added, of glancing at the medical journals. At the end of a heavy day's round of shop the natural inducement is to seek leisure in some light reading, if time permits; this slight recreation has been truly earned. Meanwhile, the world of progress begins to leave them behind; methods of treatment which at one time were new, and to which they still adhere, have possibly become old, superseded by other methods based upon scientific advancement, to which their knowledge does not extend. To keep pace with medical progress is only possible by keeping in contact with its sources confined for the most part to the educational centres. The value of postgraduate training is thus exemplified. Under its teaching a practitioner has a ready means of restocking his knowledge. This new knowledge is afterwards diffused through the population, and the State benefits from the improvement which follows in the public health.

This is an excellent exposition of the relation of

the State to postgraduate training and the benefits which accrue to the State on account of the medical practitioners of a country being kept up to date in medicine and surgery. Whatever improves the health of the population of a country is of obvious advantage to the State, and consequently good postgraduate training is more or less essential to the wellbeing, material and physical, of the inhabitants and to the State. However, little argument is required to show that properly organized postgraduate instruction is of benefit to a nation. The truth is evident. Moreover—and this is the phase of the matter which mainly interests American medical men—unless a thoroughly organized system of postgraduate teaching prevails in a foreign city, these men will not seek instruction in that city.

Although, as previously stated, the opportunities and facilities for postgraduate training in London have been almost ideal up to the present time, organization has been lacking. The Fellowship of Medicine Post-Graduate Association, in the founding of which Sir John MacAlister played a leading part, contains the germs of a successful scheme. Indeed, to say that it only contains the germs is giving it faint praise. It may be said that if the scheme is adequately developed there is every reason to anticipate for it a prosperous future. But in order that this object may be achieved, it must be earnestly taken up by the medical profession of London. As is pointed out editorially in the *Medical Press and Circular*, February 2, 1921, the scheme lacks one important though essential detail, namely, a hospital or centre for postgraduate work. The Post-Graduate Medical School of New York would be shorn of the greater part of its capacity for usefulness were it not for the splendid hospital attached to it. To quote again from the *Medical Press and Circular*, the present teaching schools of London can only lend an extramural hand in the scheme by throwing open their classes to the Post-Graduate Association. The various special hospitals willingly do the same. Yet it is patent that no postgraduate school can be worked successfully upon these lines. Therefore the solution of the problem lies in the amalgamation of one of the non-teaching general hospitals with the scheme or in the building of a new postgraduate hospital. A centre is absolutely necessary, and until this difficulty is overcome an impasse has been reached. The report of the Minister of Health's Committee will be awaited anxiously, and it is to be hoped that it will be issued soon. Time is passing, and if London is to compete on favorable terms with existing medical centres, a practicable scheme must be set on foot as quickly as possible.

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At a meeting of the Royal Society of Tropical Medicine and Hygiene, held in the rooms of the Medical Society of London on January 21st, Lieutenant Colonel C. A. Gill, I. M. S., read a paper on the Influence of Humidity on the Life History of Mosquitoes and Their Power to Transmit Infection. Colonel Gill in the course of his paper drew attention to the fact that recent observations made at the London School of Tropical Medicine, and also by Rouband, led to the conclusion that temperature

exerted a direct effect on the malarial parasite in the mosquito; low temperature inhibited the growth of the oocyst, and within certain limits its rate of development was dependent on the mean temperature. In the case of *Culex fatigans*, length of life was compatible with a wide range of temperature, but vitality was reduced at low temperatures. He consequently regarded the mechanism of malarial infection as being in no small degree influenced by and dependent on the combination of the factors of temperature and humidity, and the importance of ascertaining the optimum condition of these factors and the range between the limits favorable to the transmission of infection. Such information would serve to elucidate certain points bearing on the endemology and epidemiology of malaria.

As examples Colonel Gill mentioned that although the distribution of anophelines in the United Kingdom was widespread indigenous malaria was much restricted, and he subsequently showed that this was due to its confinement to areas where favorable conditions of temperature and humidity prevailed. Similarly, he explained paludism sine malaria, the concurrence of anophelines and human carriers with the absence of fresh infections. He also regarded malaria sine paludism or the occurrence of new infections in localities where there were few anophelines and human carriers, provided there was a period of potential infection, as attributable to favorable influences of the two factors concerned. Finally, he asserted that the rôle of meteorology was a subject of considerable importance, and that the practical bearing of the information it afforded was the possibility, so long as the required meteorological data were available, of determining the season of the year and the duration of the period during which malaria could normally be acquired in any particular area. It seemed probable, indeed, that with the knowledge provided by the meteorological conditions in the United Kingdom less importance could be assigned to antimosquito measures in the prevention of the spread of malarial infection in Great Britain. This means, in short, that the temperature and humidity of Great Britain generally are such that even if the malaria bearing mosquitoes are present that the infection is unlikely to spread. This information is satisfactory in view of the fact that many British soldiers have been stationed in tropical countries notoriously malarious. Alarm has been expressed by some medical writers that, unless precautionary measures were taken, malaria might become prevalent in the country. According to Colonel Gill there is little fear of this happening.

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On March 31, 1920, the midwives' roll contained 45,960 names, a net increase in twelve months of 1,794. Of this total, 37,056 were trained and 8,904 untrained. The percentage of trained midwives who practice as such is relatively small. This percentage is estimated by the Central Midwives' Board at 21.5 of the trained women on the roll, of the untrained approximately 40.7 per cent. are in practice, though frequently to a small extent only. In 1919 the total number of practising midwives was 11,488, of whom 7,865, or 68.5 per cent., were trained, and 3,623, or 31.5 per cent., were untrained. During the year fifty-four mid-

wives were dealt with by the board under its penal powers to answer charges of malpractice, negligence, or misconduct. These cases resulted in the immediate removal from the roll of the names of thirty-five women. Two others were censured and two cautioned, while in four cases no action was taken. Of the fifty-four cases tried, twenty-two, or nearly one half, were those of women who had neglected to advise medical assistance in cases of ophthalmia neonatorum.

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The shortage of houses in Great Britain has obviously had a very bad effect on the general health. Not only is there a lamentable lack of housing accommodations, but a considerable proportion of that which exists is inadequate and unhygienic. The result is that health and morals suffer, and, in fact, a good deal of the industrial unrest at the present time is due to inadequate and bad housing. The Government is endeavoring to grapple with the problem, and have made more progress than might have been expected with their housing scheme during the past twelve months. Their efforts, however, are greatly hindered by the shortage of labor, especially skilled labor. Statistics with regard to skilled labor in England and Wales are appalling in their significance. For example, in 1910 there were 73,012 masons; in 1920 were 19,310. There were 9,796 slaters in 1910, there were 3,673 in 1920; there were 31,301 plasterers in 1910, in 1920 there were 12,067; there were 115,995 painters in 1910, in 1920 there were 53,063. Still, as said before, the Government is making progress with their scheme, and some 60,000 houses were commenced in 1920.

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A naval order states that several cases of anthrax which have occurred recently in this country have been traced to infection from the bristles of brushes imported from abroad, mainly from Japan. Sash tool and shaving brushes have been found to be a source of infection in samples taken by the Ministry of Health. No brushes for Admiralty service are being obtained from Japanese sources, and the Navy, Army and Royal Air Forces institutes sell shaving brushes of French and British manufacture only, with a guarantee that they are free from anthrax. Although no special apprehension is felt as regards anthrax occurring in the British Navy from service brushes, a warning has been issued that no sash tool brushes are to be used for shaving or other purposes for which they are not intended, and it is pointed out that care shall be taken that the bristles of these brushes do not come in contact with the skin, especially before use. Although not absolutely reliable, the Ministry of Health recommends the following method of disinfection: Thoroughly wash the hair of the shaving brush with soap and warm water, to which a little washing soda has been added, and immerse for one hour in a disinfecting solution, consisting of two tablespoonfuls of formalin in half a pint of water. The solution should be at a temperature slightly above body heat. After removal from this solution the brush should be allowed to dry before use. Care should be taken not to allow the hair of the brush to come into contact with the hands.

# Book Reviews

## MASTOIDS ROENTGENOLOGICALLY CONSIDERED.

*Mastoids Röntgenologically Considered.* By FREDERICK M. LAW, M. D., Röntgenologist to the Manhattan Eye, Ear, Nose, and Throat Hospital, New York. Forty-two Röntgen Studies on Twenty-one Photographic Plates and Eleven Text Illustrations. Volume I: Annals of Röntgenology Series of Monographic Atlases. Edited by JAMES T. CASE, M. D., President of the American Röntgen Ray Society. New York: Paul B. Hoeber, 1920. Pp. ix-37.

In no field of medical endeavor can the x ray be of more utility than in the diagnosis of mastoid conditions. In order to utilize this valuable diagnostic adjunct we must have good pictures and be able to interpret them intelligently. An atlas of this type has a special field of usefulness, for at any time in any given case the plates in the book may be consulted and compared with those taken in the case. By adhering closely to the author's technic there should be no cause for marked variation, and so we have a comparative scale, the value of which can only be appreciated by physicians who have anxiously awaited the aid of the x ray, only to be puzzled by the plate, remaining as much in doubt with the plates before them as they were before the plates were taken. As we are told in the preface, it is a most difficult thing to carry over the memory of the appearance of an x ray photograph denoting a special lesion.

From experience gained during the war the reviewer learned to appreciate the utility of the x ray, not only as an aid to diagnosis but as an invaluable aid to the surgeon to serve as a guide. This held true for the removal of foreign missiles, bone surgery and infected states in the lung and other tissue. This field of usefulness should be just as great in the mastoid region. When working in the neighborhood of the mastoid, a region where there are so many vessels and nerves, where all short cuts should be taken, a region demanding great skill and perfection of technic on the part of the operator, every means at our disposal should be made use of to the fullest extent. Every possible type of infection is considered in this book, and the right and left mastoids given for comparison.

American medicine may well be proud of this magnificent collection of radiographic plates. With the publication of such works we need not say, when we see a fine piece of work from Europe, "It is too bad, but we have nothing like that in America." And not alone from the point of view of artistic production may this book be praised; its usefulness

is indeed great. The technic, which is explained with great clarity, may be of chief interest to the x ray operator, but the findings are so clearly explained that they will be of value to the general practitioner as well as to the otolaryngologist and head surgeon.

Perhaps the most important portion of the book, though it embraces only part of the text and contains a few illustrations, is that dealing with technic. Much stress is placed on simplicity of procedure in preparing the patient in the proper posture, the length of exposure, and the development of the plate. In order to enhance the usefulness of the book; in order to make the plates more valuable from the comparative and interpretative points of view, heed should be given to this portion of the text. It may be that the reader will feel that his technic is very good, or good enough or even better than that described by Law, but that is not the important point. The thing to be settled is a uniformity of

technic, and it may be that in the beginning of an effort of standardization the work may appear to be inferior, but when the operator becomes accustomed to the rules laid down by Law no such difficulties will be encountered.

Cooperation is another important thing. The surgeon should know the technic of the x ray operator so he may better know how to interpret the plates. The x ray operator should know some of the uses to which the plates will be put, and in many cases make a study of the patient's history. Cooperation is essential, not only in this field but in every line of medical endeavor.

The explanatory notes are concise, and convey the interpretations admirably. They

are written in three languages, English, French and Spanish, in three parallel columns. This will extend the scope and usefulness of the book, and is a splendid idea that should be utilized more often in the preparation of medical textbooks. By the use of this method it will not be necessary to translate this book into other languages, one edition sufficing for many countries. The Spanish and French texts should prove especially useful in the South American countries.

The publishers are to be complimented on this excellent piece of bookmaking. It is hoped that the balance of the series, which are edited by James T. Case, president of the American Röntgen Ray Society, will prove to be as good as this the first number. With the completion of such a series we shall have a standard set of reference books which can be used as a basis for future building.



FREDERICK M. LAW, M. D.,  
Author of *Mastoids Röntgenologically Considered.*

## TUBERCULOSIS.

*Vorlesungen über Bakteriologie, Immunität, spezifische Diagnostik und Therapie der Tuberkulose.* Für Aerzte und Tierärzte. Von Dr. ERNST LÖWENSTEIN, a.o. Professor an der Universität Wien. Jena: Verlag von Gustav Fischer, 1920. Pp. 476.

This is one of the most voluminous works on tuberculosis which have appeared in Germany or Austria since war times. Although it chronicles no startling discoveries in tuberculosis science, this book, by reason of its thoroughness and careful descriptions of all that is known up to date, should be considered a valuable addition to the tuberculosis literature of today. One hundred and sixty pages are devoted alone to the description of the various types of tubercle bacilli, as the human type, the bovine type, and the avian type. The latest method of staining and technic of cultivating the bacillus are considered with unusual care, also the relative frequency of the human and bovine types has been considered and a few cases of avian tuberculosis in human beings are recorded. There appears an interesting description of tuberculosis in coldblooded animals, such as carp, snakes, frogs, and turtles, which is perhaps more of purely scientific than of practical interest, unless there are still some believers in the value of turtle serum, of which no mention whatsoever is made in this most recent book, in spite of Friedmann's frequent efforts to get recognition in Germany.

The most valuable chapter in the book is perhaps that on congenital tuberculosis, in which the author comes to the conclusion that in the higher animals, including man, intrauterine infection is extremely rare, and if it does take place it is usually toward the end of pregnancy and when the disease has so far progressed that the bacilli are found in the maternal circulation. The author comes to the conclusion, which is borne out by general experience, that children of a tuberculous mother can develop quite normally when they are separated from the mother and placed in good, hygienic environments.

In the chapter on Sources of Infection it is interesting to note that the author believes that direct outdoor tuberculous infection from street dust is virtually impossible, but he emphasizes the great danger of indoor infection. It is gratifying to see that, like so many American hygienists and anti-tuberculosis workers, he protests against the use of the broom, brush and feather duster and the beating of carpets, which methods he wishes to see replaced by the pneumatic cleaner.

Concerning immunization against bovine tuberculosis, the author admits freely that in spite of the enormous amount of work done along this line, no practical results have been obtained. He emphasizes the fact that the single prophylactic vaccination with living tubercle bacilli only lasts a year, and after that the resistance is lost. In other words, he confirms the maxim that only the tuberculous organism can be rendered immune by tuberculin. "*Nur der tuberkulose Organismus kann tuberkuloseimmun sein.*" He regrets that the immunization experiments in veterinary practice have been suspended, and hopes for their early resumption.

In the chapter on Immunity in Human Beings, nothing new is set forth, but interesting is one of

his conclusions that, as a result of all that is known concerning it, it is a fact that in the adult the danger from infection is not nearly as great as formerly assumed. In the chapter on Tuberculous Infection and Tuberculous Disease, we find some very interesting conclusions. Thus the author says: "We know that infection in children is the more difficult to combat the younger the child, but that the former belief that a positive Von Pirquet in such a child would be equivalent to a death sentence is not borne out. We know today that tuberculosis may heal even in a child while still taking the breast." (The reviewer presumes that the child has had a healthy wet nurse.)

The book gives a very thorough description of the various methods of using tuberculin as a diagnostic means. Concerning the subcutaneous tests, the author comes to the conclusion that the smaller the dose of tuberculin injected the greater the diagnostic value. Prior to giving the contraindications to subcutaneous injections of tuberculin for diagnostic purposes, the author asserts that he has resorted to it in many cases without a single fatal result, and he ascribes the reported fatalities to the excessive doses formerly used. He nevertheless cautions against the use of tuberculin injections where there is chronic headache (localized), cardiac complications, diabetes, nephritis, and epilepsy, and very pertinently says that in cases of doubt of the presence of typhus or miliary tuberculosis a tuberculin injection will not clear up the situation. He then describes the various other methods of tuberculin reaction for diagnostic purposes, such as the Von Pirquet, the Morro (Koch's tuberculin and anhydrous lanolin in equal parts as a salve), Epstein's stab reaction, Mendel's intracutaneous reaction, Wolff-Eisner's conjunctiva reaction, Lafitte's rhino-reaction, Oppenheim's urethral reaction, etc.

Eighty pages of this monumental work are devoted to the therapeutic use of tuberculin and its modifications, such as the bacilli emulsion, the albuminous free tuberculin, tuberculol, tuberculin Denys, tuberculin Von Beraneck, Klebs's tuberculo-cidin, Calmette's CI, the iron tuberculin, tuberculoplasmin, tuberculotoxin, Von Ruck's watery extract of the tubercle bacilli, Levy's tebean and Meyer-Ruppel's tuberculosis vaccine, and Ishigami's tuberculotoxoidin. It would require too much space to give the author's opinion on these various preparations. He is evidently in favor of judicious tuberculin therapy, and says that too small doses cannot accomplish anything. He says if the dose is too small to dissolve a localized area, which is the object of tuberculin therapy, we might just as well give up the use of tuberculin as a therapeutic factor. Of course, like all authors, he speaks of the importance of treating each case as an individual, and enumerates the well known contraindications.

As a whole, this book of 476 pages gives us the widest up to date knowledge on the bacteriology and immunity of tuberculosis and the use of tuberculin as a diagnostic and therapeutic means in tuberculosis in animals and man. As the final chapter Professor Löwenstein adds his views on the combat of tuberculosis as a plague of the masses (*Volksseuche*), and says, among other things, that the

treatment of the tuberculous is not alone sufficient to prevent the spread of tuberculosis. This is evidenced by the fact that, although the mortality was diminished before the war, the morbidity was not, and that now the latter is increasing and the former has again attained its prewar record. As a means to successful combat he gives the well known methods in vogue in this country. He insists particularly on the removal of the infant from its tuberculous environment, and emphasizes that, while the treatment may be a private affair or based on social insurance, prevention should be concerned with the welfare of the entire population, hence it must be made a matter of the State.

The volume is to be highly recommended to the specialist and student of these vital problems, the solution of which is of such paramount importance to the well being of humanity throughout the world.

## REFRACTION AND MOTILITY OF THE EYE.

*Refraction and Motility of the Eye.* With Chapters on Color Blindness and the Field of Vision. Designed for Students and Practitioners. By ELLICE M. ALGER, M.D., F.A.C.S., Professor of Ophthalmology at the New York Post-Graduate Medical School, etc. With One Hundred and Twenty-five Illustrations. Second Revised Edition. Philadelphia: F. A. Davis Company; London: Stanley Phillips, 1920.

This, the second edition of Dr. Alger's little book, should form a welcome addition to the library of both the general practitioner and the special eye man. Contrary to the general run of works devoted to this subject, the book is supplied with a great deal of physical, anatomical and physiological data bearing on the subject, so that the reader is gradually led to reason out for himself the whys and the wherefores, instead of being offered ready made dogmatic rules which he takes for granted and indisputable. The perusal of the little book cannot but lead to the conclusion that refraction, which is both a science and an art, should be recognized as a very important branch of ophthalmological practice, that has in certain aspects a more or less direct bearing on communal welfare, as, for example, refraction of school children's eyes, and similar social activities. It cannot be reiterated often enough, even at the risk of being trite or conventional, that in many cases accurate, painstaking refraction will not only correct impaired vision, but will frequently improve either the general health of the subject or influence favorably one or many symptoms that have balked the efforts of many a neurologist or gastrologist.

The last chapter on ocular malingering, while not bearing directly on the subject of refraction, will be of practical interest to those eye men who are brought in contact with industrial and accident insurance cases, where the detection of malingering is a matter of considerable importance financially and otherwise. Those of us who did eye work for the government in the various recruiting stations during the war well remember what difficulties we would occasionally encounter in detecting malingering in clever impostors who seemed pretty well versed in the methods of pretending amblyopia of one degree or another, with the purpose of evading service.

## INDIRECT CALORIMETRY.

*Laboratory Manual of the Technic of Basal Metabolic Rate Determinations.* By WALTER M. BOOTHBY, A. M., M. D., and IRENE SANDFORD, Ph. D., Section on Clinical Metabolism, The Mayo Clinic, Rochester, Minn., and The Mayo Foundation, University of Minnesota. Illustrated. Philadelphia and London: W. B. Saunders Company, 1920. Pp. 117.

The authors say they want indirect calorimetry available in every well equipped and scientifically conducted clinical laboratory, though it is, probably, the most difficult technically.

What will it do? We doubt whether the ordinary general practitioner has thought much about it. In each mammal there is a basal metabolism; that is, the minimal heat production of an organism measured from twelve to eighteen hours after food taking, and with the organism at complete muscular rest. This minimal heat production may be had by calorimeter, or, indirectly, by calculating the heat production from an analysis of the end products within the organism, or, specifically, from the amount of oxygen used and the corresponding amount of carbon dioxide produced, together with the total nitrogen eliminated in the urine.

The authors present a brief history of the instrument, which has won its way to general use. In the Mayo Clinic they have done more than twelve thousand tests and now average thirty-two a day.

## AN INDIAN PIONEER OF SCIENCE.

*The Life and Work of Sir Jagadis C. Bose, M. A., D. Sc., LL. D., F.R.S., C.I.E., C.S.I.,* Emeritus Professor, Presidency College, Calcutta; Director of the Bose Research Institute. An Indian Pioneer of Science. By PATRICK GEDDES, Late Professor of Botany (University College, Dundee), St. Andrews University, and Professor of Sociology and Civics, University of Bombay. With Portraits and Illustrations. London, New York, Bombay, Calcutta, and Madras: Longmans, Green & Co., 1920. Pp. xii-259.

As Patrick Geddes introduces Bose, we penitently recall the truth of that great Indian's words: "My special investigations have, by their very nature, presented extraordinary difficulties. I regret to say that during a period of twenty years these difficulties have been greatly aggravated by misrepresentations and worse. These obstacles, deliberately placed in my path, I can now ignore and forget."

His life is fine, not because of the obstacles we kindly placed in his way, but despite them. In all the dignity of knowledge he worked and waited until prejudice should be washed from men's eyes and narrow minds receive light. His life is not yet a closed story. It only began in 1858, in a village called Rarikhal, in Vikrampur, in the Decca District, where his father, Bhagaban Chunder Bose, was deputy magistrate, a man picked for capacity in many ways, one who could assume command of his own police and control many villages, a skill which the dacoits tested by open incendiarism and secret revolt.

Jagadis, a daring little boy, always asking questions, found him a wise father, who sent him to the vernacular, rather than the English Government school, when he was only five years of age, wanting him to know his own tongue and people first. His

first English school was the Hare School in Calcutta which he attended when nine years old; later he went to St. Xavier's College in Calcutta.

Armed with his B. A. he determined to study medicine in London, but with a courtly deference to his wishes fitting in with his parents' means. He went, however, but malarial fever, apparently kala-azar, accompanied him, and not for two years did it give him much peace, and it left insomnia to keep him unnecessarily wideawake for another seven years. Health forced him to give up medicine in London, and he won a science scholarship at Christ's College, Cambridge, settling down after the middle of the second year to physics, chemistry and botany.

Now, triply armed with degrees, he eagerly set out for a visit home, with an introduction from Fawcett to Lord Ripon, who in turn gave him one to the Director of Public Instruction, a man not exactly genial, and who shared the foolish idea that Indians had no aptitude for exact science. He approved of the prevailing custom, that of not giving the higher posts to even the most highly qualified Indians, and objected to Bose being appointed officiating professor of physics in the Presidency College, Calcutta.

Three years passed, their fruit convincing colleagues that Bose had come to stay. His splendid effort to help pay off the family debts showed civilians also that he was a man as keen for honor as his father, as keen also for the diffusion of knowledge. The Governor General, with much trouble, managed to secure him an annual grant of £166 for future research. But Bose was overworked and disappointed. He wanted to visit European scientists. He won his way, after a refusal, it being decided that "to help him is to promote the cause of science all over the world."

Geddes wisely gives a sketch of Hertz and his electric waves, to show exactly what Bose did in their further development and how his researches passed rapidly into current science after his lectures at the Royal Society and the Friday Evening Discourses at the Royal Institution. His name was established. He was drawing near the end of his leave, yet Paris and Berlin were waiting to hear his explanations; 1897 marked his visit there. Cornu, Quinke, and the learned men of France and Germany were tremendously delighted to welcome him. Of friends in England, Lord Kelvin, Sir Henry Roscoe and others, were not wanting, though opposition was still looming. The highfalutin' *Spectator* and *Times* found something "of rare interest in a Bengalee of purest descent lecturing in London to an audience of appreciative European savants upon one of the most recondite branches of modern physical science."

The details of his work on molecular strain and its interpretation should be learned by studying Geddes's book, the section of getting photos without the action of light is very interesting, the response of the living and nonliving still more so. Bose had noted the curious phenomenon of fatigue shown by the receivers of his electric waves; how the fatigue was removed after rest, the receiver becoming insensitive when left idle for too long a period, the inertness being removed by an electric shock. For

the first time in science he compares and parallels the responses to the exertion of living tissues with those of inorganic matter.

Geddes says that Bose's paper came as a great surprise to the Paris International Congress of Physicists in 1900, and was regarded as the greatest paper read. At the British Association that same year, the physicists were enthusiastic, the physiologists perplexed and silent. The sensitive soul of Bose felt this at once, but he just went ahead, and, after two months' illness, worked out more fully the fatigue of metals, and, moreover, showed their influence to poison just as animals and plants do, particularly to oxalic acid.

Now the trouble began. Sir Burdon Sanderson, a physiologist, first complimented, then advised Bose to return to his work as physicist. As to the electric response of ordinary plants, he would say that it was *absolutely impossible*. It simply could not be! Lord Rayleigh tried to comfort Bose by telling how he himself, as a physicist, had met great opposition from the chemists for predicting a new element. Argon exists, the chemists are silent!

It was a great shock to Bose, this failure of acceptance, this failure to believe. The subtle difference of putting the paper in the *Archives* instead of the *Proceedings* was fully known to him. The news traveled to India of his work being rejected by the Royal Society. He felt he must make a stand for India's sake, for the truth's sake. A plea for extension of leave was made, and at first refused. But the Secretary of State managed it, and Bose privately demonstrated the electric response of plants to three confrères of the Linnean Society. They were boyishly excited, and begged for the paper doomed to the *Archives*.

Bose was modestly happy, and was ill prepared for another shock, the alleged evidence that results similar to his had been obtained by a physiologist in November, 1901, who had seen Bose's experiments in June, 1901. Professor Howes, of the Linnean Society, rooted out all the matter and vindicated Bose, advising him to head his paper with a clear statement of facts, or, ignored, his enemy would take advantage. Bose let his defeated antagonist alone, and as a result was annoyed for over nineteen years by insinuations spread abroad concerning his work.

His work has become known to all, owing to its popularization through general literature, but it is only to the scientist that the beauty of it all is revealed: the growth, the sleep, the death of plants and animals, the wonderful possibilities, truths which mean delight and easement of tired minds, truths demonstrated with his magnetic crescograph, further wonders when he has perfected his micro-radiometer. For those who fain would read a fairy story, let them get this work of Geddes, who tries so hard to make people understand.

The psychologist, physiologist and physicist can together join and follow Bose into the land of psychophysics, where he boldly shows their common standing ground and predicts great marvels from small things seen: the possibilities of seeing things dreamed of, of hearing sounds of which we now doubtfully catch the faintest murmur. The doctors

greatly hope that he has power to unlock many doors now standing so quietly, steadfastly locked in medicine.

His lifelong efforts for a State laboratory seemed so often thwarted, so often hopeless; yet, on November 30, 1917, his fifty-ninth birthday, his Research Institute at Calcutta was standing. He was to have retired in 1915, but the Bengal Government, recognizing his services to the Presidency College and the students, extended his period two years, then gazetting him professor emeritus, on full pay instead of pension. Moreover, he received a knighthood and the companionship of the Star of India, and a Fellowship of the Royal Society in 1920.

All seems well, but for a man like Bose to be worried concerning the financial side of his institute will spoil much good fruit. He has made over all his money, but that is inadequate; research cannot be sustained on applause, nor fame sustained without due study, and study today means costly appliances. It will succeed, but let those who are friends of learning smooth the road a little for the hundreds of Indians who will follow Bose, who, in these sorely catastrophic times, have eyes and ears alert for any slight from the young kingdom which governs the ancient empire of India.

#### TOLSTOI.

*Resurrection.* By LEO TOLSTOI. Translated by ARCHIBALD J. WOLFE. In Two Volumes. New York: International Book Publishing Company, 1920. Pp. Vol. I, ix-337; Vol. II, 398.

The author's task in writing his book is an easier one than that of the reviewer. This is true at least of such books as these two volumes. For in such writings the author is impelled; he is an instrument in the hand of that which must be uttered. It is not alone that he is forced by men and events whose cause he must plead. There may be present a strong conscious purpose to speak for them as the apostle of civic moral regeneration. It is his own spirit, however, that compels him. Upon this external factors play. These are in turn devoured, hungrily followed by the needs, the overwhelming desires, of that spirit. Is it easy to voice these things again in the cold lines of a critical review?

One cannot, however, remain cold as one follows Tolstoi through his pages. *Resurrection*, regeneration, might be the title of any of his works as he strives to bring men and governments to a sense of their wrong, and to help the men and women at least to discover themselves on a road of newer purpose, truer living. Tolstoi sees about him gigantic injustice. In the writing of this work it is chiefly that of a cruel system of legal condemnation and punishment pursuing its destructive way under cover of apparent protection to society and the safety of those who individually fatten on the spoils of a blindly selfish system.

Tolstoi's heart goes out straight to the individual man and woman who has been caught as a helpless victim of this great machinery of selfprotective greed and ignorance. More pitiable still, even more the object of his call to resurrection, does he find the individual whose innate love of safety and of the comforts of success have led him into the toils

of the machine as a part of it. Such a one makes its victims, profits by them, while himself drifting out of the invigorating path of real service out of the exercise of his best nature which he had once set himself as his task.

The hero and the heroine of the story belong to these two groups. He is of the latter class; she belongs to the former group of victims. Around them are the large numbers of men and women who represent all the ways and degrees in which the members of such a nation as the old Russia struggle and suffer, fail or succeed, under the sharply contrasting conditions. Some maintain their own clarity of soul even while they suffer the extremity of injustice which society puts upon them. Some win it out of their sufferings, though marred by the sordid conditions to which they are found. The hero is almost alone in winning back his purity among those whose lot is participation in the workings of the crushing, governing and penalizing machine. And he wins only by escaping from this. For such is its nature that loyal service to it must involve insincerity to one's true humanity.

Incidentally, Tolstoi treats of such unequal distribution of rights and opportunities as lie in aristocratic land holding, the subjection of the common people toward those in power and authority, whether economic or social. The chief theme, however, is the abuse of criminal justice or injustice. Plainly does he lay bare the lack of the most ordinary fairness in the trial and condemnation of prisoners and even of common decency in their personal treatment. These are not figments of the author's imagination, for, aside from the fact that the story takes its origin in an actual occurrence, its detailed matter also comes from known incidents and from actual observed conditions. Tolstoi is pleading not only against unfairness, sin against individual souls and bodies, in this setting forth of facts. He appeals also to society's own commonsense and its interest in its own preservation and health, which evil thus glossed over but undermines. One's heart fails before his truth, and then rebounds with hope as one reads these pages written of Russia some twenty to twenty-five years ago, and turns the pages of Russian history since. But this novel was not written of Russia and for Russia alone. Truth extends further.

The hero and the heroine of the story are not all heroic, or, rather, they have the heroism of reality, the meeting of it in a slow winning of their own individual strength in contact with it. The same might be said of other characters, fellow travelers, many of them on the slow, torturing journey into Siberia. Tolstoi does not write of idealized heroes and heroines. His men and women have the weaknesses and the imperfections of human beings just as they are, also as they fall sometimes under the hardships which meet them, sometimes win a victory because of them. There is many a keen psychological analysis in the book, both of individual characters and of situations which arise. This deep psychological insight pervades also the author's treatment of the members of the society which is the oppressor. Here, as has been said, is infinite compassion for their ignorance, their stupid main-

tenance of what they have been trained to consider their right and their only protection.

Tolstoi's sadness of heart, his great unsparing mind of truth, at times make his style abrupt and rough, like the road over which the throng of the condemned crowd along to their Siberian exile. He himself grasps for some final personal solution of the problems he presents—aside from his more practical socialistic teachings. The latter he clearly advocates, but then he sets a further solace, a unifying absorption for his hero in the comforting exercise of a religious "business of . . . life." Tolstoi does not explain how the hero worked out his new realization of the gospel, but for him as in Tolstoi's own life "everything he did after that night had a new and quite different significance."

#### THE STRENGTH OF GOVERNMENTS.

*The Four Just Men.* By EDGAR WALLACE, Author of *The Clue of the Twisted Candle*, *The Secret House*, etc. Boston: Small, Maynard & Co., 1920. Pp. i-310.

This was the title that Gonzalez, Poiccart, Manfred and Thery assumed, and one to which their judges tacitly agreed they had some claim. Their object was to clear out of the way any man who, after being duly warned, persisted in doing that which harmed or impeded the course of justice. The man might be rich or poor, commoner or noble, so when Sir Philip Ramon, M. P., resolved to carry through the Aliens Extradition Bill, in spite of warnings, they slowly prepared for his death, but as openly, so undramatically, that they were thought to be arrogant boasters until they showed such uncanny knowledge of Ramon's doings and sayings that Scotland Yard itself became harassed and totally perplexed, particularly when, the Just Men's threat fulfilled, Ramon killed and Manfred betrayed, he escapes when he is actually on the hangman's block.

And e'en the ranks of Tuscany  
Could scarce forbear to cheer

the ranks of Tuscany meaning here the readers of such marvelous deliverances.

One of the four is annoyed at being classed with an ordinary murderer. He had not looked at himself in that light. Murderers generally have a personal grudge. The four worked for common humanity against a common enemy, and if the purposed wrongdoing were forsaken by that enemy they had nothing against him.

To incise their justice more deeply on the prejudiced reader, the author in Part Two introduces us to the red hundred, a band of anarchists who would ruthlessly take life, and which numbered world criminals, people of the underworld, past masters of villainous arts. Prepared to meet opposition about holding meetings, they are astonished when informed by the Police Commissioner that in England they may "talk sedition and anarchy till you're blue in the face; you can advocate the assassination of kings as long as you don't specify which king; you can plot against governments, denounce armies and grand dukes; in fact, you can do as you please—because that's the law." Great Britain had hitherto been immune against active work by the anarchists; now they had openly declared war, yet, at the same time, the four just men had declared war on them

as including men of the land whom the law passed by, sweaters and debauchers, robbers of public funds, corruptors of youth, men who buy justice as men buy bread. The contrast between the working of the four and the red hundred is strongly brought out. The former utterly break the power of the reds. Their leaders mysteriously disappear, but not before one of them has betrayed, as I said, one of the four.

The story swings along so easily that all the wonderful happenings do not jar, and the question of "killing no murder" will lead the reader into a deep ravine of thought concerning many of the troubles which haggardize society today.

#### New Publications Received

[I've published full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

THE PASSIONATE SPECTATOR. By JANE BURR. New York, Thomas Seltzer, 1921. Pp. 197.

THE PERTINENT WAGNERITE. By B. M. STEIGMAN. New York: Thomas Seltzer, 1921. Pp. 127.

THE ANATOMY OF THE NERVOUS SYSTEM. From the Standpoint of Development and Function. By STEPHEN WALTER RANSON, M.D., Ph.D., Professor of Anatomy in Northwestern University Medical School, Chicago. With 260 Illustrations, Some of Them in Colors. Philadelphia and London: W. B. Saunders Company, 1920. Pp. 395.

APPROVED TECHNIC OF THE RIDEAL-WALKER TEST. By SAMUEL RIDEAL, D.Sc. (Lond.), Fellow of University College, Lond., Fellow of the Institute of Chemistry and of the Chemical Society, and Captain J. T. Ainslie Walker, R.A. M.C. (T.F.), Fellow of the Royal Society of Medicine, the Institute of Chemistry, and the Chemical Society. London: H. K. Lewis & Co., Ltd., 1921. Pp. 12.

MIS TREINTA Y SIETE DIAS DE AYUNO. (AUTO EXPERIENCIA.) By DR. LUIS C. MAGLIONI, ex-Cirujano del Hospicio de las mercedes, Ex-Asistente, durante ocho años, a las Clinicas de Paris, Zurich, Berlin y Londres. A proposito de los casos de Mr. MacSweeney y de sus 11 compañeros, ayunadores Políticos en las prisiones de Brixton y de Cork. "Huelga del Hambre." Buenos Aires: Empronta San Martin, calle Alsina 459. 1920. Pp. 48.

PRECIS DE PATHOLOGIE INTERNE. Par BALTHAZARD, CESTAN, H. CLAUDE, MACAIGNE, NICOLAS, et VERGER, Professeurs Agrégés des Facultés de Médecine. Secrétaire de la Rédaction: Balthazard. Tome IV: Systeme nerveux. Cestan, Professeur de clinique neuropsychiatrique (Toulouse). Verger, Professeur de médecine légale (Bordeaux). Troisième Edition. Paris: Masson et Cie., Editeurs, 1919. Pp. 916.

LECTURES ON SURGERY TO NURSES. By ALAN H. TODD, B.Sc., M.S. Lond., F.R.C.S. Eng., Author of a *Practical Handbook of Surgical Aftertreatment*, etc.; Orthopedic Registrar, Late Senior Surgical Registrar, Guy's Hospital; Lecturer and Surgeon to the Nursing Staff, Guy's Hospital; Late Surgical Specialist, Lewisham Military Hospital, etc. London: Edward Arnold, 1920. Pp. vii-270.

DERMATOLOGY. THE ESSENTIALS OF CUTANEOUS MEDICINE. By WALTER JAMES HIGHMAN, M.D., Associate Professor of Dermatology, New York Post-Graduate Medical School and Hospital; formerly Instructor in Dermatology, Cornell University Medical School; Acting Associate Dermatologist, Mt. Sinai Hospital, New York; Adjunct Dermatologist, Lenox Hill Hospital, New York; Pathologist, Department of Dermatology, Vanderbilt Clinic, New York, etc. New York: The Macmillan Company, 1921. Pp. xvii-482.

# Practical Therapeutics

## THE PRINCIPLES INVOLVED IN THE X RAY TREATMENT OF TONSILS

By W. D. WITHERBEE, M. D.,  
New York.

The tonsil, histologically, is made up chiefly of lymphoid tissue and a connective tissue framework. Pathologically, the cells of the lymph follicles are stimulated to excessive cell proliferation, causing distortion of the crypts and retention of their contents.

The proliferation of cells of the lymphoid tonsil shows a much larger increase in the lymphocytes than in the germinal centre of the follicles. The fibroid tonsil, on the other hand, shows an increase in the germinal centre of the follicles. The germinal centre of the follicle is characterized by the different forms of lymphoid cells all the way from the embryonic type to the mature cell at its periphery. Therefore one finds numerous cells in this area in various stages of mitosis. These pathological cells which are found in the follicles of the diseased tonsil are as susceptible to the effects of x ray as any of the embryonic cells in the body.

The filtered dose of x ray used in this treatment is only about one fourth to one third the dose used in the treatment of ringworm of the scalp in children, hence overcoming the objections of a possible injury to any of the adjacent normal cell structures. The fractional method of dosage given at two week intervals allows the normal cells to recover completely, while the pathological cells, being more sensitive, are unable wholly to reestablish themselves. Thus, by a series of such treatments, the pathological cells will finally be overcome and absorbed.

The decrease in size and smoothing out of the tonsil surface is due to the x ray effects on the lymph follicles as heretofore described. This shrinkage produces an eversion of the crypt, lessens its depth, and relieves the distortion and retention. The fibroid tonsil, the type commonly found in adults, is more amenable to the x ray on account of the susceptibility of the immature cells in the enlarged germinal centre. The infected fibroid tonsil is small in size and on pressure a thin milky discharge exudes, usually containing large numbers of streptococci.

The direct effect of x ray on bacteria when applied to a growing culture is practically nil. In the series of thirty-six cases treated at the Rockefeller Institute, thirty-two were negative to pathogenic bacteria four weeks after treatment, and no change was noticed in the number of colonies of the ordinary bacteria usually found on the mucous surface.

Whether these results on pathogenic bacteria are due to the evacuation and drainage of the crypts or to an increased local phagocytosis, we are, at present, unable to discover. These results seem to coincide with those obtained in acne vulgaris. In this condition we have a chronically infected seba-

ceous duct and gland corresponding to the infected crypt and follicle in the tonsil. Acne vulgaris presents one of the most striking and permanent results in x ray therapy.

We are all aware of the fact that after tonsillectomy in subjects above the sixth and eighth year of life there still remains a considerable and perhaps a vast amount of diseased lymphatic tissue containing pathogenic bacteria. It would seem reasonable to suppose that the effect on this tissue would be the same as that produced on the tonsil, and relieve foci of infection not reached by tonsillectomy.

X ray treatment will be especially indicated in those cases associated with chronic endocarditis, pericarditis, hemophilia, or any coexisting conditions which contraindicate an operation or anesthetic.

For x ray technic and results see the January issue of the *American Journal of Röntgenology*, the *Journal of the American Medical Association*, January 1, 1921, and the *New York State Journal of Medicine*, January, 1921.

## DIFFICULTIES ENCOUNTERED IN DIRECT LARYNGOSCOPY.\*

By ROBERT F. RIDPATH, M. D.,  
Philadelphia,

Associate Professor of Laryngoscopy, Post-Graduate School of Medicine, University of Pennsylvania; Laryngologist to St. Agnes' and Jewish Hospitals.

It is not my purpose to present any new problems in the passing of the bronchoscope or esophagoscope, but to enumerate some of the difficulties encountered in examining patients by this method.

Younger people, or those between the ages of twenty-one and forty, are perhaps easier to examine. When in the teens, nervousness and lack of coordination with the physician are more marked than later in life. In older people we have greater susceptibility to the anesthesia, inability to open the mouth, or form as great an angle, due to a less movable mandibular joint, and the impossibility of flexing the neck backwards as far as is done with ease in younger patients.

Patients with large or elongated teeth give a smaller space for manipulation; the tube causing pressure on the teeth will be a mechanical obstruction which is sometimes difficult to remedy or impossible to overcome. If a small funnel shaped epiglottis is encountered, great difficulty is experienced in thorough cocaineization and the insertion of the tube. The same trouble is also met with in the thick cartilaginous and overhanging epiglottis. Hyperesthesia of the epiglottis is sometimes encountered which may necessitate more thorough anesthesia than otherwise. Anatomical configuration of the larynx, illustrated by a highly developed or prominent Adam's apple, may necessitate counter pressure before we are able to insert the bronchoscope or visualize the glottis.

\* Read at the third annual meeting of the Association of American Peroral Endoscopists, Boston, June 1, 1920.

There is a certain amount of psychological apprehension at the sight of the instruments and the effect of cocaine. Women, however, although attributed with a more delicate nervous system than men, seem to be less affected and are better patients than men. Men are more afraid and, in spite of every encouragement, fear the insertion of the instrument. It is always well to remember, as Brunning has so well phrased, "That it is not the strength of the operator but the resisting power of the patient which must determine the limit to which the method be applied." So, in spite of thorough anesthesia, if through lack of confidence, nervousness, or what not, in your patient, do not force the first examination, but have the patient return and success will reward you at future sittings. Malformations, mediastinal tumors, diseases of the cervical vertebrae, all play their parts in difficulties encountered, and we must always be on the alert. Patients having cardiac lesions with failure of compensation are practically barred from a bronchoscopic examination, first, because of the excitement caused by the examination, and, second, by their inability to stand the local anesthesia. Arthritis occurring in any vertebral articulations precludes a tracheal examination. Aneurysm, dyspnea, or goitre, if large, are all conditions which must be considered in our examinations.

1928 CHESTNUT STREET.

## TECHNIC OF SIMPLER AND SAFER TONSILLECTOMIES.

By SAMUEL COHEN, M. D.,  
Philadelphia.

Assistant Instructor in Laryngology, University of Pennsylvania;  
Assistant Laryngologist and Otolgologist to the Howard Hospital.

Tonsillectomy is unquestionably the most frequent operation performed. It is supposedly a specialist's operation, but it is done with great frequency by surgeons and practitioners who lay no claim to special tonsillar knowledge or ability. Its improper performance can result in much harm. The operation today, at least in this country, differs from that performed a generation ago, in that we advocate the removal of the tonsil, including its capsule, whereas previously they were chopped off, thus explaining the general idea that tonsils often regrow. It is an almost acknowledged fact that if the tonsil and capsule are entirely removed no regrowth is possible. The operation differs from that performed a generation ago in another respect, that is, from a simple chopping off procedure it has become a difficult complicated operation, requiring special surgical technic, which has aroused dread in the minds of both laity and practitioners. All operators use various kinds of knives, scissors and other implements, which require time in perfecting oneself in their use. The technic is as varied as the number of operators. Each operator gradually acquires a certain technic peculiarly his own. The amount of technical skill necessarily varies, of course, as to the particular method employed, some being so very complicated that much time, energy, and perseverance are required in mastering it. One fact is prominent, on surveying the literature on this subject, and that is that there is no system or

rule. Each operator, after many trials and hardships, finds the method best suited to his skill and fancy and soon proclaims this method as the best. Anarchy unquestionably reigns supreme in the tonsillar field. It has been well remarked that this operation, as performed by the majority of operators, shows lack of confidence, lack of simplicity,—everywhere chaos.

The supreme and dreaded danger in a tonsillectomy is hemorrhage, and no matter how skillful and careful an operator may be he is not safe from this, the laryngologist's nightmare. The operation as performed by the majority of operators at present is a tedious one, often taking a good deal of time, besides being a very bloody one indeed. Because of this, I have heard physicians say they would rather witness an abdominal operation than a bloody tonsillectomy. One can easily imagine the effect produced on the laity when they are present at a bloody tonsil operation, and, in spite of the fact that they are told it is a very little and simple operation, this dread and disgust is apparent. No wonder some parents and physicians assert that the damage occasioned by the loss of blood does more harm to the child than can be counterbalanced by the possible good the removal of the tonsils may achieve.

Dr. LaForce has introduced an instrument for the complete removal of the tonsil and capsule, which does not necessitate a laborious, time taking technic and the hemorrhage is almost nil. Dr. Skillern, of Philadelphia, has modified this instrument, improving it in a good many respects, although the essential principle underlying both is the same. (My only objection to this instrument is that it is a little too large.) This modified LaForce instrument is the one I use, and I am sincerely grateful to Dr. Joseph I. Smith, who permitted me to inaugurate its universal use at the Howard Hospital. Permit me to enumerate a few of its favorable points, demonstrating why all operators, whether expert laryngologists or occasional operators, should, as far as possible, use this instrument or one made on the same principle.

1. The tonsils may be removed *en masse*, capsule included, in at least ninety-nine per cent. of all cases in children, with the loss of only a few drops of blood, or, more properly speaking, blood stained mucus. In only one case out of about eight hundred operations with this instrument I was called back to stop a tonsillar hemorrhage and in that case a little pressure in the sinus tonsillarlis checked it completely.

2. There is no danger of injury to either anterior or posterior pillars or uvula. An examination of throats operated upon by the several hundred different methods in vogue today will show the enormous frequency with which these structures are injured.

3. Rapidity. The operation can be performed in about two minutes, and if one wishes, for better hemostatic effect keeping the blades on another minute or two is sufficient. A point of little importance, but still not to be overlooked, is that the method employed in using this instrument can be taught with a few demonstrations. Anyone can become an expert in its use, no lengthy technic, no special skill, and no extraordinary care being required.

4. With this instrument the removal of tonsils can easily become a home operation, and can be done in the presence of the nonmedical. The only objection the parents may have in witnessing the operation is that it is done so quickly and looks so simple that the parents feel they are not getting their money's worth. I have never had any difficulty in removing tonsils in children, no matter how small or how deeply buried they may have been.

Another advantage that should not be overlooked, which is of rather more importance than may appear at first glance, is that the operation may well be done under semianesthesia, thus lessening other risks. It has been a frequent experience of mine to have the anesthetist say: "Doctor, this child has some heart lesion," or "That child is taking ether badly; please hurry the operation through." In such instances, the entire operation may be done in about one minute. This rapidity can be accomplished by anyone.

While strongly advocating this instrument or any instrument based on these principles, and knowing that in the vast majority of tonsil operations it is the best method to employ, it is very important for each operator to perfect himself in some dissection method, as there are a fair number of cases, and these in adults only, where this instrument does not give good results and the dissection and snare neck must be resorted to. I have tried it for local tonsillectomies and found it unsatisfactory, so have abandoned it.

It seems to me that this instrument, or any instrument based on the same principles, should be adopted by all operators, thus bringing order out of the present chaos in the tonsillar field, ease out of difficulty, and safety out of many possible dangers.

2523 SOUTH BROAD STREET.

## A NEW HEALING AGENT

By ISIDOR F. SHAPIRO, M.D.,  
New York.

It was demonstrated several years ago that inflammation could be healed by fluorescent substances, if exposure was made to light for superficial sites, and to x rays for deep locations. It has also long been known that radium could excite *in vitro* the luminescence of such substances, but, to my knowledge, the application of radium to this method of treatment *in vivo* is new, and is here suggested as worthy of investigation.

Eosin, in one per cent. concentration, is the dye that has hitherto proved probably the most successful in this method. (Alcohol must be added to about ten per cent. in order to dissolve the eosin in water.) The radium emanation required is almost infinitesimal, and therefore not capable of doing harm; only a few millicuries, using as little as will barely cause luminescence of the eosin solution. (Perhaps it would be desirable to add one per cent. of fluorescein to the eosin solution.)

In view of the case reports in the literature of the remarkable success of a one per cent. eosin solution when exposed to light rays, this suggested combination should find a wide field of application. On the one hand, it would not be limited to super-

ficial situations, as when light is used on the eosin, and, on the other hand, it would dispense with the danger, expense, and cumbersomeness of utilizing x rays to excite the eosin in deep locations, such as the paranasal sinuses and deep fistulae.

355 EAST 149TH STREET.

**Antihemorrhagic Serum.**—H. Dufour and Y. Le Hello (*Presse médicale*, January 12, 1921) report further clinical experiences with their serum against hemorrhage, which they term anthema. The serum used is that of rabbits in a state of anaphylactic sensitization, such serum having marked coagulating properties from which the human patient suffering from hemorrhage derives marked benefit. The serum is generally injected in the buttock, the first dose being ten to twenty mils. Where hemorrhage recurs or does not yield to the first injection, further injections up to sixty mils or more, are given. In addition to being useful in patients actually bleeding at the time, it has also been administered prophylactically by surgeons to reduce hemorrhage in operations on structures with an abundant blood supply, as in the region of the liver, and in bleeders. For such purposes ten mils are injected on the preceding evening and on the morning of the operation; good results are reported from this procedure. Use of the serum is indicated in hemorrhage from the nose, gums, stomach, intestine, uterus, or kidneys, and in all disorders tending toward the production of hemorrhage. Successful results were obtained in many cases of hemoptysis.

**Latent Mastoiditis.**—H. Luc (*Presse médicale*, January 19, 1921) holds that the symptoms commonly given in textbooks as signifying mastoiditis are more strictly indications not only of suppuration but also of retention of pus in the mastoid antrum. Where there is no hindrance to the exit of the pus into the tympanic cavity these symptoms need not necessarily appear. Abstinence from operation in spite of a definite suspicion of participation of the antrum in middle ear suppuration not only allows the ear discharge to continue indefinitely but also exposes the patient to the danger of infection of the lateral sinus or of the meninges and brain. Whenever, in a case of acute otitis treated from the start by free paracentesis tympani, suppuration persists undiminished beyond the third or at most the fourth week, it is the physician's duty to warn the patient that, while it is not impossible that the discharge might eventually stop of itself, such a result would probably be long delayed, and that in the meantime the patient is exposed to extremely serious complications. On the other hand, prompt opening of the antrum would not only eliminate this danger but also quickly put a stop to the discharge. Where, in spite of the warning, the patient continues to refuse operation, the responsibility of the outcome of the case should be placed wholly upon him. Apart from prolonged persistence of free discharge, another indication of latent mastoiditis is that suggested by Cubet-Barbon: Where, after the drum has been freely opened, thoroughly washed through the meatus, and its fundus carefully dried, a droplet of pus at once reappears at the opening, suppuration in the mastoid antrum is suggested.

**Indications for the Removal of the Tonsils.—**

—J. H. McPhedran (*Canadian Journal of Medicine and Surgery*, June, 1920) quotes from St. Clair Thomson the following conditions as indicating the removal of the tonsils: 1. Any interference with respiration, night or day. 2. Threatened alteration of voice or articulation. 3. Eustachian catarrh, or the presence of any middle ear affection. 4. Chronic enlargement of the cervical glands. 5. Chronic lacunar tonsillitis, or cheesy collections in the supratonsillar fossa or between the tonsil and the pillars. 6. If adenoids are present, and are to be operated on, the opportunity should be seized to remove any decided tonsillar hypertrophy. 7. For attacks due to septic absorption through the tonsils, or a chronic state of illhealth, which can be attributed to infection through the tonsillar area. 8. Frequent attacks of tonsillitis. 9. Peritonsillar abscess. He maintains that they should not be removed as a preventive measure in a child, lest tonsillitis, poliomyelitis, arthritis, or an endocarditis develop, because it has not been proved that the tonsil is the only channel of entrance of infection, and it has been proved that chorea, arthritis, and endocarditis develop when the tonsils are out. They should not be removed from a child because of one attack of tonsillitis, but the tonsil should be given a chance to return to normal. The tonsils should not be removed during an acute attack of tonsillitis; as a general rule not before the age of fifteen from bleeders; in diabetes; in chronic deforming types of arthritis; solely because they are enlarged, or detritus is seen in the crypts; in malignant disease and arteriosclerosis.

**Use of Ouabain in Heart Disorders.**—Jean Minet (*Gazette des praticiens*, January 1, 1921) reports clinical experiences which lead him to subscribe to the recommendations of Vaquez and Lutenbacher as to the use of ouabain in preference to digitalis in certain types of heart disorders. The usual procedure is to inject one fourth of a milligram of Arnaud's ouabain intravenously on the first day and half a milligram on the second and third days. One of the types of cases in which ouabain is indicated is that of acute cardiac insufficiency with dilatation, as in cardiorenal patients. In these cases there is sometimes pulmonary edema and at others an anginal attack. Venesection is appropriate, followed by ouabain, which is repeated once or twice. Usually within a few hours pain and dyspnea diminish and the fluid in the lung is reabsorbed; the blood pressure rises and general edema, if present, disappears. In acute dilatation of the right heart, such as may follow undue exertion in mitral disease, especially in women, during pregnancy or labor, the disturbance comes on so suddenly that digitalis has no time to act, even if given intravenously; in such cases ouabain brings rapid relief. In progressive cardiac insufficiency in heart cases, when digitalis has lost its efficacy, ouabain gives immediate results and tends so to influence the myocardium as to restore its sensitiveness to digitalis. Ouabain is likewise indicated in cases of mitral stenosis or occasionally regurgitation, accompanied by paroxysmal pains along the upper part of the scapula and attacks of tachycardia which are the forerunners of complete arrhythmia; also in mitral cases with paroxysmal

bradycardia, due probably to changes in the bundle of His, in which variety of case digitalis is contraindicated. Ouabain is itself contraindicated in cases of cardiac cachexia with general infiltration of serous membranes, inflammatory lung complications, marked albuminuria, and anasarca. It should not be given where chronic nephritis with marked albuminuria accompanies heart disease. Even in the absence of albuminuria, it should be used cautiously where there are signs of urea retention. It is also contraindicated in infectious endocarditis, whether acute, subacute, or chronic.

**Sodium Chloride Concentration in the Blood and Urine.**—A. Pruche (*Presse médicale*, January 12, 1921) asserts that the concentration of sodium chloride in the blood is always maintained at a constant level under both normal and abnormal conditions.

Where there is chlorine retention there is also always retention of water, in order to maintain isotonicity of the blood serum. The chloride concentration and output of urine in a given period of time are merely the result of a reaction in the blood having for its object to maintain a constant balance between the water, chloride, and dry residue. It is only necessary to inquire whether this balance is obtained under any conditions as regards the output and concentration of the urine. By discarding the urine as a useless factor, one eliminates *ipso facto* the correction for extravascular balance and the investigation of the threshold of excretion. Whenever the concentration of chloride in the dry residue of the serum is found increased, treatment and especially the diet for salt removal should be instituted at once, without waiting until visceral and peripheral edema sets in. This increased concentration of chloride in the dry residue, which precedes edema frequently by a long interval, is the sufficient and necessary peculiarity of retention of chlorides in the blood.

**Treatment of Gas Bacillus Infections in Civil Practice.**—Ernest L. Hunt (*Boston Medical and Surgical Journal*, April 15, 1920) says that preventive treatment obviously begins with the one who renders first aid. Great service may be rendered by cutting away clothing, lightly applying a clean dressing to protect the wound, and supportive splinting, but grave harm may be done by reducing a protruding bone, or applying a tourniquet or splints unnecessarily or too tightly. At operation the bacteriological condition of the wound should be determined by swabbing the interior and having smears stained and examined at once. The presence of Gram-positive rods and their relative numbers should warn him as to his procedure, though their absence should not wholly allay his fears. Cultures should be made and inspected for gas in six or seven hours. The surgeon must then thoroughly cleanse the wound, lay it open freely, remove all foreign matter, cut away traumatized skin fringes and muscle ends, ascertain condition of blood supply, being very careful to avoid important trunk vessels, and preserving such bony fragments as are well attached to periosteum and are needed to establish continuity of the repair process. Attention to muscle ends is of first importance; they should be trimmed down to healthy tissue. It is necessary

to get into all recesses of the wound and clean it up. Carrel-Dakin tubes wound with gauze should then be inserted to the innermost recesses and retained by an occasional fine catgut stitch, the rest of the wound packed lightly with gauze, strips of gauze soaked in sterile vaseline should be applied to the skin, covered by a liberal, soft, absorbent dressing, and wire hannock splints used if available, avoiding undue constriction at any point. Probably it is best to use Dakin's solution by hourly flushing. Inspect limb at least every four hours, and remove dressings if any bad symptoms appear, or culture shows gas production. Take smears daily from inside wound for bacterial count.

After the disease has developed the treatment is operative, and the type of operation must depend upon the stage the disease has attained. The choice of operation requires nice judgment on the part of the surgeon. If the disease be discovered in the early, local stage, the procedure should be free opening of the involved areas with careful anatomical separation of fascia layers down to the bone, avoiding major circulation channels, and excising all devitalized muscle, which can be recognized by its brick red color, friability, and failure to contract when pinched or cut. If not recognized until the explosive stage, when the limb is massively swollen, crepitant, and discolored, the wise operator will amputate above the involved areas.

**Intestinal Parasites in Digestive Pathology.**—Marcel Labbé (*Bulletin de l'Académie de médecine*, January 4, 1921) states that relatively little is as yet known concerning the disturbances of function which various parasites cause in the alimentary tract. In addition to disturbance due to infection, parasites cause irritation which reacts on the abdominal nerve plexuses and produces symptom groups simulating various painful disorders in the abdomen, such as hepatic or pancreatic colic, appendicitis, gastralgia, hyperchlorhydria, and gastric ulcer. Irritation and penetration of the mucous membrane by certain worms give rise to acute or chronic inflammatory states appearing in the form of enteritis, colitis, or appendicitis. Digestive disturbances due to worms may be very frequent, and consist in abdominal discomfort or pain appearing at irregular intervals, with alternate diarrhea and constipation, subfebrile temperature, and loss of weight. Treatment by ordinary measures fails, and recovery occurs only after expulsion of the parasites with suitable remedies. In other instances the parasites cause an obstinate chronic colitis with repeated attacks of diarrhea of a bilious or dysenteriform type. *Tenia* sometimes induces typical manifestations of hyperchlorhydria, with late pains, preservation of the appetite, and loss of weight such as to suggest gastric ulcer, until finally the expulsion of segments of the worm led to proper diagnosis and treatment. Persistent pinworm infection may cause repeated attacks of pain suggesting appendicitis, the appendix being found to contain numerous worms when removed; subsequently hepatic colic may seem present, until ultimately anthelmintic drugs are used and the monthly painful attacks overcome. The author has seen threadworms cause symptoms so severe as to lead to apprehension of cancer of the pancreas. The stools should always be examined for parasites

or their ova in long standing dyspepsia. To gauge the intensity of the infestation, it is well to count the number of ova in a known amount of feces. Treatment should be intensive and prolonged. Large parasites, such as *tenia* and *ascaris*, are rather easily got rid of, but the smaller ones, viz., *ankylostoma*, *oxyuris*, and *trichocephalus*, are obstinate. *Thymol* and *calomel* are the most active remedies; but repeated treatments, sometimes extending over months, are required to cure, and even with prolonged treatment, in some cases the result obtained is only a remission in the parasitic infestation.

**Treatment of Acute Gastroenteritis in Infancy.**—S. C. Gutierrez (*La Pediatría Española*, December 20, 1920) is against the administration of purgatives, such as castor oil, in either the acute or the chronic form of gastroenteritis in infants. Rectal irrigations, first employed by Monti, have been almost given up by the writer, their sole indications being rectal tenesmus or the necessity for the rectal administration of opium. Hydrotherapy, in the form of sponge or full baths, is sometimes of value, as are also hot compresses.

Intestinal antiseptics have also fallen into disuse, not so much, in Gutierrez's opinion, on account of their somewhat exaggerated danger, but mainly because of their failure to help the little patient. The best method of intestinal antiseptics is to put the intestinal mucosa in a condition where it will regain its normal resistance against invading bacteria.

As to astringents, they are of service when the occasion is opportune and the dose correct. Any astringent may increase toxemia if it is given in the active acute stage; it must always be merely an adjuvant to a dietetic regimen, and only in the rarest instances can it, *per se* cure diarrhea.

Bismuth subnitrate, dermatol, tannin, tannigen, oxide of zinc, gelatin and many other agents give good results when used propitiously as to time and dose, but their action can never be compared to that of opium. The diet is to be watched with the utmost care and increased with the greatest caution, and, later on in convalescence, the administration of tonics is indicated.

**Treatment of Malignant Bladder Disease by Radium.**—Clifford Morson (*British Journal of Surgery*, July, 1920) states that little has been said about the dose of radium, the aim being rather to discuss when and how it should be used in the treatment of malignant disease of the bladder and male genital organs. With the experience gained in recent years of the effect of radium upon malignant disease, there is one outstanding fact—radium is local in its action. The removal of a growth by radium does not ensure an immunity from recurrence in other parts of the body. The experiments on mice, which showed that the cancer cell when irradiated with a sublethal dose had the power to confer immunity against the same strain of tumor, have as yet failed when put to the test in the case of human malignant disease. It is the type of growth which rarely gives rise to metastases that is most successfully treated by the rays of radium. Therefore in malignant disease of the bladder and prostate a good result may be expected, provided the remedy is applied with care and exact knowledge of the effect of irradiation upon normal tissue.

# Proceedings of Societies

## ASSOCIATION OF AMERICAN PERORAL ENDOSCOPISTS.

*Third Annual Meeting, Held in Boston, Mass.,  
June 1, 1920.*

The President, Dr. JOHN W. MURPHY, of Cincinnati, in the Chair.

**Qualifications a Peroral Endoscopist Should Possess.**—This is the subject of Dr. Murphy's presidential address, which is published in full on page 451 of this issue.

**Traction Diverticulum of the Esophagus.**—Dr. H. ARROWSMITH, of Brooklyn, was unable to attend on account of illness, and his paper was not read. Dr. Henry L. Lynah, of New York, showed several lantern slides, illustrating a case of traction diverticulum of the esophagus. One slide showed a traction diverticulum with malignancy which perforated through her bronchus; two slides showed what was thought to be traction and propulsion diverticulum in tuberculosis, and another showed diverticulum pulled over to one side, the pleura pulling the esophagus out of position. This turned out to be a case of tuberculosis, not malignancy. Dr. Arrowsmith's paper appears on page 463 of this issue.

Dr. H. P. MOSHER, of Boston, said he had one specimen of traction diverticulum at the museum, which was the only one he had seen.

Dr. LEE W. DEAN, of Iowa City, Iowa, said that two weeks previously he had seen a case of traction diverticulum. As was usually the case, it was an accidental discovery. The patient came complaining of difficulty in swallowing. An examination was made to see if there was a stenosis of the lower pharynx. The patient had a kyphosis of the cervical portion of the spinal column. The stenosis was found, and just above it was a marked traction diverticulum. In this instance it was due to the infection about the bodies of the vertebrae extending to the wall of the pharynx, and the resulting scar tissue pulling the funnellike cavity in towards the spinal column.

Dr. Mosher said he thought there should be more of these diverticula from tuberculous glands surrounding the esophagus. The more carefully they were examined the more one would think there would be involvement of the esophagus with pulling of the esophagus out of place with projections, not large enough to be diverticula, but projections produced by these tuberculous glands.

Dr. WILLIAM B. CHAMBERLIN, of Cleveland, said he would like to know how one could make a differential diagnosis between a traction diverticulum and a pouch. Dr. Mosher replied that they never occurred in the same place; as far as he knew a pouch always occurred higher up.

Dr. THOMAS HUBBARD, of Toledo, said that in the study of diverticula he thought the string guide method was very useful. In other words, if any fluid went through into the stomach it was easy to get the silk twist through; and when it came to the

study of a case with the esophagoscope he had a ready way of locating the lower orifice and that was particularly useful if an attempt was to be made to dilate the lower orifice. He thought that added an element of safety to the study and became a factor in the treatment. All were familiar with the string guide method. It took forty-eight hours to get the silk twist firmly anchored in the intestines, and then with traction on the string one had a direct positive guide through the orifice to the lower esophagus.

Dr. SIDNEY YANKAUER, of New York, said that Dr. Hubbard's remarks reminded him of a case in which he felt that he would be helped out with the string, but had a great deal of difficulty. This was a peculiar case, not a diverticulum but a spasm of the esophagus. This patient was on the surgical side of the hospital, where a diagnosis of carcinoma of the esophagus was made because the radiograph showed a bulging and a narrower one through which the bismuth paste trickled slowly. The chest was opened with the idea of opening the esophagus, but when it was brought to view, it was found to be a perfectly normal esophagus. The surgeon had the esophagus between his fingers and could tell it was normal. The patient recovered from the operation and then was turned over to Dr. Yankauer for study. In the meantime gastrostomy had to be done because the patient could not swallow, and a string was put down all the way through. Dr. Yankauer said he tried to esophagoscope the patient by passing a string, but it was absolutely impossible to get beyond this one point because there was a tight spasm in the middle of the esophagus and the parts above were so lax that they would be pushed off into the lateral border of the esophagus and carry the string with it. There was no actual dilatation of the esophagus. It was impossible even under local anesthesia to pass an esophagoscope beyond this spasm. Under general anesthesia the spasm was relaxed, and the esophagoscope was passed without the slightest difficulty. Finally, Dr. Yankauer said, he took a flexible wire and passed that down through the gastrostomy wire, and when he got a stiff wire through and was able with difficulty to get the esophagoscope past the spasmodic point, the string helped. But the string alone was not sufficient to pass this tight stricture about the middle of the chest.

Dr. LEE W. DEAN, of Iowa City, Iowa, said that in the case he had mentioned the string always went down through the opening, and an x ray plate was so characteristic, the radiologist thought, that he insisted that this funnel should be more marked than it was.

Dr. Thomas Hubbard, of Toledo, said he wanted to speak about the use of the string, especially in malignancy. He was convinced that by the string method, retaining the string *in situ*, the patient could be fed with safety by tube even in the late stage of malignancy. He thought that this method was better for the patient, and did away with the extra surgical risk of the gastrostomy.

Dr. William B. Chamberlin, of Cleveland, said that Dr. Hubbard's suggestion of the use of the string was especially successful in a recent case he had seen of esophageal pouch. He endeavored to pass the esophagoscope into the esophagus, but was unsuccessful, the instrument going into the pouch each time. Subsequently he had the patient swallow a string, and then he introduced the esophagoscope over the string and was able to enter the esophagus without difficulty. The patient was subsequently operated upon with good results by Dr. Crile. Dr. Chamberlin said he did not know whether the method was new, but he suggested doing a combined operation to Dr. Crile; that is, while he introduced the esophagoscope into the pouch, Dr. Crile should open the neck at the same time and allow the pouch to be presented into the wound with the tip of the esophagoscope, thus making it much easier for the surgeon to dissect the pouch and get down to the normal lumen of the esophagus. Dr. Crile's objection to this was that it would be difficult to administer the anesthetic, owing to the presence of the tube in the mouth; but Dr. Chamberlin did not think the objection held. He thought the method was a good one, and that it could be worked out satisfactorily. In this case the esophagus was normal, but one could not find the opening. Perhaps Dr. Mosher could have done so with his ballooning method. He had not been able in this case to use the ballooning method, but the string method succeeded very well.

Dr. SAMUEL IGLAUER, of Cincinnati, said that in regard to the question of anesthesia with the presence of the tube, he wanted to refer to the fact that it was possible to introduce two tubes, one in the esophagus and one in the trachea, and that the patient might be anesthetized through the tracheal tube. He reported such a case to the society last year. There was room in the mouth for an esophagoscope and a bronchoscope at the same time.

In answer to Dr. Lee W. Dean's inquiry as to whether the intratracheal method of anesthesia was used, putting the rubber tube through the nose, Dr. Iglauer said that a bronchoscope had been introduced through the mouth and the anesthesia continued through the bronchoscope; that is, holding the anesthetic at the distal end of the bronchoscope. This patient had a stricture of the pharynx which prevented the introduction of an esophagoscope without cutting off the air; but by introducing both tubes it was possible to give an anesthetic and continue the esophageal manipulation.

Dr. H. P. MOSHER, of Boston, said that it seemed to him there should be more strictures of the esophagus due to tuberculous glands. The lower half of the esophagus was often imbedded in them. When they became infected and broke down the healing could readily produce a stricture. In examining tuberculous bodies it was not uncommon to find the lower half of the esophagus very irregular and studded with small projections. The use of the guiding string was well established in esophageal surgery. He said that he was using it less and less, however, finding more certainty in the employment of ballooning. In inserting the feeding funnel in cases of carcinoma the string replaced all other methods.

**Stricture of the Esophagus.**—Dr. THOMAS E. CARMODY, of Denver, presented this paper, which is published in full on page 427.

Dr. H. P. MOSHER, of Boston, said he was especially interested in Dr. Carmody's account of embryology and comparative anatomy. He felt that from such studies we could get new light on the variations of the esophagus. Dr. Carmody had given him too much credit. All the tables in the article quoted were appropriated from others. Dr. Mosher said he was startled when Dr. Carmody said that it was not justifiable to remove a specimen in cases of carcinoma of the esophagus. It had been his custom to do this, and not only this, but to curette away projecting masses of carcinoma before using radium. Radium, as he had used it, had been ineffectual. The danger in its use was that too strong a dose would set up a peritonitis. Dr. Green had of late been planting radium seeds in the growth. This was probably a step forward.

Dr. D. J. GIBB WISHART, of Toronto, mentioned a case of atresia of the esophagus in an infant who lived only a few days, and showed a specimen from the case. There was an opening from the stomach into the trachea and a piece of glass passed through this. It was a congenital defect, and the infant lived only a few hours after birth.

Dr. LEE W. DEAN, of Iowa City, Iowa, said he would be glad if Dr. Carmody would elaborate a little more on the expression that he used, namely, that malignancy of the esophagus could be successfully treated by the use of radium. He thought we get a wrong impression as to what he meant.

Dr. GEORGE F. KEIFER, of Lafayette, Ind., touched upon one or two points in the diagnosis of strictures of the esophagus. He believed that it was necessary to take two x ray plates of such conditions; one laterally and one anteroposteriorly. Each gives information that the one would not convey even though the plate was taken diagonally. This was illustrated in a case of a lye burn stricture that he reported last year before the Midwest Section of the American Laryngological, Rhinological and Otological Society, where the lateral view gave an entirely different idea of the stricture than that obtained from the view anteroposterior, and thus very materially helped us in the treatment of the stricture.

Again in some strictures of the esophagus it was absolutely impossible to dilate the stricture without the esophagoscope in place to guide the bougie of the operator. Blind bouginage was always dangerous and often resulted in perforation of the gullet. There was no warrant for such procedure at all. But it was not always necessary to pass the esophagoscope in order to dilate strictures, especially in adults. In such cases after he had made his examination with the tube, he was likely to have the patient swallow slowly about six yards of stout silk as suggested by Mosher, and when the caught end was firmly held in place by stomach and bowels, the perforated sounds of Plummer were threaded on the end sticking out of the mouth. Then if the silk thread was held taut in passing the bougie into the gullet it could not go anywhere else than through the stricture, for it must follow the thread.

Again, it might be impossible to pass the string

cutting esophagotome of Jackson. Dr. Keiper said he had failed in its use because it was a stiff instrument. Where he had failed he had adopted this procedure: By perforating the steel staff of a Jackson Guisez instrument just where it was joined to the flexible end, the flexible end could be made to pass the stricture, and with a string threaded in the perforation the stricture could be cut by drawing the string back and forth. In the treatment of stricture of the gullet, haste in diagnosis was to be deprecated. In but few cases was haste justifiable. Plenty of time should be taken to get good plates, and then carefully examine with the illuminated instrument the site of the lesion, dilating when the site of the stricture was reached under direct inspection; in children the esophagoscope should always be passed as the preliminary to dilatation.

Dr. JOSEPH C. BECK, of Chicago, said he thought that the use of radium, the size of dose, the infiltration of certain rays, should be discussed, but the fact of the matter was that only in parts like the larynx, nose and the pharynx, that were practically confined to our field, had the laryngologist become also the radiumologist. In all other fields it seemed the radium expert applied the treatment, but in this field the radium expert was not as well qualified to apply the treatment, at least not in the larynx and in the esophagus, as was the endoscope expert, that is, the endoscopist.

Dr. Beck said that the radium he used contained twelve and a half milligrams of pure radium in the needles. The needles were of different length, the radium was in the point of the needle, twelve and a half milligrams of radium protected by the thinnest material, aluminum, silver, depending on what screening was required—the thinnest amount, one tenth millimetre, covering over this radium, was all that separated the rays of radium which were contained in this tip. These needles were sharp pointed and contained a little eyelet and through this eyelet was passed a flexible wire. That was the anchorage that you used so that it could pass down and not get lost. The esophagoscope was passed down to the growth and then by means of the forceps it was pressed into the tumor. The idea of the needle was to prevent the conditions of burning, because it was pressed into the substance of the tumor itself and never in the normal tissue, and then we get the radiations in all directions rather than from a capsule or a plaque from one side. It was figured that in the application of radium four of these needles were used as a rule; that meant fifty milligrams of pure radium for six hours. Multiply that fifty by six, and the amount was expressed in millicuries, the expression that was used. Fifty times six millicuries would be recorded in your record.

Dr. Beck said he had used it in six cases of carcinoma of the esophagus proved by microscope. He had used it in these cases of quite progressive esophageal carcinoma in the upper and lower portion of the esophagus in four and five treatments. In the first case, where the carcinoma was in the upper portion, after five treatments of the application of these needles the patient was able to swallow liquids fairly comfortably which he had not been able to do before that. Cases where the carcinomas

were in the lower portion were still under treatment. One of them had had eight seances, and the other three. This was new work, and further observations were necessary. Care should be taken to allow plenty of time before stating that a cure had been effected.

**Fluoroscopic Bronchoscopy, Esophagoscopy, and Gastroscopy.**—Dr. R. C. LYNCH, of New Orleans, read a paper on this subject, which is published on page 437.

Dr. CHEVALIER JACKSON, of Philadelphia, said it seemed to him that Dr. Lynch had struck the keynote in regard to the use of the fluoroscope in connection with endoscopy. There were two kinds of bronchoscopy in his mind, one was safe and the other was dangerous. When every step was watched with the eye at the tube we had safe bronchoscopy, but in using fluoroscopy many dangers were encountered. It seemed to him that the safest procedure was for the endoscopist to look through the tube, at least while he was doing something; he could intermittently look over at the screen occasionally to obtain needed information, but it seemed to him that when doing anything he should be looking through the tube while the fluoroscopist, looking at the screen, told him to go deeper or sideways or at an angle. He considered the most dangerous part of fluoroscopic bronchoscopy was where someone unfamiliar with bronchoscopic methods introduced the bronchoscope and forceps which he watched through the screen. The most dangerous tissues were the blood-vessels, and they were invisible in the fluoroscope. The surgeon could see the foreign body and could grasp it, but between the two might be large transparent bloodvessels to rupture which might kill the patient on the table. When the matter was first approached by Dr. Ingals a number of years ago, Dr. Jackson had questioned the advisability of publishing very widely fluoroscopic bronchoscopy lest it should lead men totally inexperienced in bronchoscopy to go in and work in the blindest kind of way, with an inevitably large mortality that would undeservedly discredit bronchoscopy. He said then, and he still thought, that the fluoroscopic work should be strictly limited to the class of cases that Dr. Lynch had mentioned where small foreign bodies were in the tissues or far out in the periphery. In all cases of foreign bodies in any but the smallest bronchi, working with the eye at the tube controlling every movement of the forceps or other instrument was not only a vastly safer method, but it was infinitely more successful.

In regard to open safety pins in the stomach, they had frequently passed through the intestinal tract and out through the rectum. Dr. Jackson's advice had always been, until recently, to watch and wait; but during the past winter a baby under one year had been sent to him in whom a safety pin had been watched in the stomach for seven weeks. If he had seen it earlier, he would have felt justified in watching it for that length of time. However, after a symptomless interval of seven weeks, the temperature shot up to 106°. A radiograph was taken and it was found that the safety pin after having been in the stomach for a month had been regurgitated into the esophagus and the point had perforated the anterior wall of the pericardium. The patient had

a rapid pulse, was very restless and looked ill. Everything indicated a serious, perhaps a fatal outcome. Dr. Jackson removed the safety pin without anesthesia, general or local. The temperature went down immediately to normal. In view of this case he felt that there was justification for doing as Dr. Lynch sanctioned in his case—having the surgeon make an external opening and removing the safety pin through the stomach wall if it was thought best for the patient. In the case of a large safety pin in a child it was needless to wait. If it was small, it was safe to wait. But the chances were nearly equal so that anyone was justified in sanctioning gastrostomy for a foreign body that would not pass if gastroscopy had failed. So far, he had been able gastroscopically to remove foreign bodies from the stomach in some cases, but other cases had been so difficult that he expected to fail in a certain percentage of future cases.

Dr. RICHMOND MCKINNEY, of Memphis, Tenn., said that those who were not very skillful would say that all bronchoscopies were dangerous, but fluoroscopic bronchoscopy appealed to one who was not as skillful as Dr. Jackson. He had had a number of cases where he had used the fluoroscope and removed the foreign body where he could not use the bronchoscope. He recalled a case in which he had endeavored to get at the brad but by looking through the fluoroscope he had managed to pass it over to one side. He thought that the use of the fluoroscope made it simpler. All one had to do was to look down through the fluoroscope, pass an angular forceps and extract it. It was too simple. He said that by the use of the fluoroscope he had never seen a foreign body he could not extract.

Dr. WOLFF FREUDENTHAL, of New York, said he considered the fluoroscope a very important addition to the armamentarium of the nose and throat surgeon. Of course Dr. Jackson was right that there were dangers in bronchoscopy work. In 1910 Dr. Freudenthal described a case in which he had had some difficulty in removing a penny from a child's esophagus by the usual method. According to the suggestion of Dr. Francis Hugo he had used the fluoroscope and it did not take three minutes to get the foreign body out. It was the simplest thing he had ever seen, and he did not think there were many dangers in esophageal work.

Dr. THOMAS E. CARMODY, of Denver, believed that one should not be trying to look through the fluoroscope while looking through the bronchoscope, and there was a possibility in passing the forceps that the röntgenologist in looking through the fluoroscope might not be in the right plane to see the grasp of the foreign body. He recalled the first case he had had of this kind when he did not think it was well to use the fluoroscope because a man had failed twice, and he could see the tack perfectly, and in grasping it the röntgenologist said that he was above it. However, in looking through it he knew that he had the tack grasped, as Dr. Jackson said. But when he began to make traction on the tack, the röntgenologist said that it was coning. So it had helped a great deal. He had used it in one case in which there was a tooth in the pleural cavity where it had not helped and he had used it in the case of a tooth in the bronchi where it had helped.

Dr. THOMAS H. HALSTED, of Syracuse, N. Y., said that the first esophagoscopy he did was in a child in which a penny had been swallowed soon after birth. It had been there for four years. He attempted to remove it under fluoroscopy. It seemed to be the easiest thing to get it, but he had failed. The forceps went down to the foreign body but because it was encysted, it could not be grasped. He then did an esophagoscopy and found that the penny was imbedded, and not until carefully curetting the wall was he able to remove it through the esophagoscope. In such a case it would be dangerous to attempt removal blindly, i. e., in the case of an imbedded or encysted foreign body.

Dr. THOMAS HUBBARD, of Toledo, said that there was one emergency in which the fluoroscope was absolutely necessary, and that was in shifting foreign bodies. For example, the case of a man in whom a tack was plainly visible by fluoroscope in the right bronchus at the first examination. Bronchoscopy failed to locate the tack in right or left bronchus and he concluded that the man had coughed it up and swallowed it. The fluoroscope was not available in the operating room at that time. The next day the tack was in the lower left, and a second bronchoscopy failed to find it. It was in neither main bronchus. On the third examination the fluoroscope was available. The tack was in the lower right. Tracheotomy was done and when the tube was in the lower bronchus it was found, by the fluoroscope, it was an inch below the tack. The tack was in the upper right bronchus. In other words, it is probable that the tack had shifted each time into the upper right bronchus. With the aid of lower tracheotomy it was possible to straighten out the angle, and by double plane fluoroscopy it was possible to place the lower end of the bronchoscope exactly opposite the opening of the upper right bronchus and then with the aid of a short angle curved forceps to grasp the point of the tack. The propriety of the use of the fluoroscope became very evident right there because one was not sure after closing forceps whether he had a portion of the mucosa or the foreign body. By very slow, careful traction the tack was drawn out of the bronchus, gradually straightened, drawn into the tube and extracted. In that class of cases the fluoroscope was absolutely essential.

Dr. EMIL MAYER, of New York, said that these foreign bodies were usually in young children and consisted usually of coins and buttons, and there was never any danger from trauma in removing them. He had taken a safety pin out by the same method by simply taking up the border.

Dr. JOHN W. MURPHY, of Cincinnati, reported at the meeting last year a case of a child with a closed safety pin in the stomach. He had asked the advice of the men present, and they had advised watchful waiting. He had followed that procedure, and in the course of a few weeks the safety pin was passed in the natural way.

Dr. ROBERT C. LYNCH, New Orleans, in closing the discussion, said that he personally would never attempt fluoroscopic bronchoscopy or the use of the fluoroscope without the radiologist being present and without his direction and advice, and he had found it helpful to use the wide open screen instead of

the usual method of radiologists of narrowing the diaphragm down to the little circle. He had never exposed the patient to the rays for more than a few seconds, and had kept the total time of the exposure of the patient to the x ray to avoid the burn. He used a Coolidge tube of low penetration, and therefore there had been no trouble from burns. Somebody had spoken of that in the discussion. He could not be satisfied to remove a foreign body from the upper end of the esophagus without the aid of a tube. He much preferred to see than to go in with the forceps blindly. In the bronchus cases it was extremely comforting to watch the angle forceps in their relation to the point of the forceps to the abscess cavity; in other words, it could be determined accurately that the point of the forceps was not beyond the limits of the cavity. These abscesses were all thick walled and stood out fairly prominently with the x ray so that one could be sure that they were searching the wall of the cavity and were not beyond the wall of the cavity. Especially with the angular forceps, those that Dr. Jackson had presented, where one worked at the top of the cavity, which was the location of the most of the foreign bodies in these old, long retained cases, it was considerable comfort to feel that the forceps were in the cavity and not beyond its limits. In the case in which a baby six weeks old had a safety pin in its stomach, the pin was an inch and a quarter long, with the point open, and it was plain to see that the clasp end of the pin was engaging in the pyloric orifice and the point end was outside of the pylorus, and it was going through that in this direction so that there would be as much force in the propulsion through the pylorus. It could not have done anything else than to stick through the stomach at that point, and it was then decided that he should work for seven minutes exactly in an attempt to locate the pin in the folds of the stomach and that the ballooning of the stomach would not be advisable under these circumstances. At the end of the seven minutes, regardless of success or failure, the case was immediately turned over to the surgeon who was in readiness to do the gastrotomy, and in fifteen minutes the baby was closed up and back in the room, and the opening in the stomach was not more than a quarter of an inch long. For those who are not likely to have this experience and for the surgeon who might not know the technic, Dr. Lynch believed that the best technic for the general surgeon was to grasp the pin on the outside of the stomach; if he opened the stomach and searched around with his fingers inside of the stomach he would never find the pin; he should grasp the pin on the outside and not let go until he made the incision and grasped it with his forceps. If he did it in that way he could then make a little cut and slip the pin out with the least amount of traumatism and in the shortest time. Some of the surgeons did not seem to know that little point.

Dr. Lynch said that it seemed to him that fluoroscopic bronchoscopy was one of those things that was to be used only in selected cases. It was not right to subject the patient to fluoroscopy in every case, but in the deeper cases and in those of long retained foreign bodies where abscess cavities had developed, or in cases, for instance, of the quarter

in the stomach which had stayed in one place for two weeks, fluoroscopy was extremely important. Of course, it was right to watch these cases for a long period of time, but where a foreign body remained in the stomach for at least two weeks it was certain that there was ulceration at that location and that there would be ulceration through the stomach, that foreign body ought to be removed in some way or other, either through an incision through the stomach or by the gastroscope. He had found that it was rather hard to search the area of the stomach by means of the gastroscope alone and that the combination of the gastroscope and the fluoroscope permitted of the proper searching of the stomach in a much more comfortable way to the operator.

**Radium in Esophageal Malignancy.**—Dr. H. H. FORBES, of New York, read a paper on this subject which was published in the *NEW YORK MEDICAL JOURNAL*, October 16, 1920.

**Difficulties Encountered in Direct Laryngoscopy.**—Dr. ROBERT F. RIDPATH, of Philadelphia, read a paper on this subject which appears on page 484.

Dr. SIDNEY YANKHAUER, of New York, in discussing the subject, said that the title of the paper referred to the difficulties encountered in laryngoscopy, but he had told them of the difficulties encountered in bronchoscopy. Thinking over the difficulties he had had, he recalled two cases in which he had a most peculiar experience, and related them particularly for the purpose of asking whether anyone else had had such an experience. These cases were so-called edematous fibroma of the larynx, tumor of the vocal cords, consisting of a small sessile mass of mucous membrane. In both of these cases he had suspended the patient and got an excellent view of the vocal cords from the anterior commissure back, and the tumor had disappeared under suspension. He looked all over the surface but was unable to find the tumor in the suspension laryngoscope. Subsequently he removed the tumors, and the diagnosis was edematous polyp.

**Tumor of the Hypopharynx in an Infant Eleven Weeks Old.**—Dr. D. J. GIBB WISHART, of Toronto, read a paper on this subject which appears on page 458.

Dr. WILLIAM B. CHAMBERLIN, of Cleveland, said that some years ago he was called in consultation to see a baby who had just been delivered, who was said to have some growth in the mouth. The attending physician had placed a hemostat on the growth and was afraid he might lose it. On examination Dr. Chamberlin found the tumor was about the size of the distal phalanx of one's thumb and attached by a long and slender pedicle. The pedicle apparently was located at the lower pole of the tonsil on the left side. He was somewhat solicitous on account of not knowing how much of a blood supply it had, and as he had taken along an ordinary nasal snare he slipped the snare loop over the tumor and pedicle down as close to the attachment as possible and removed the growth. It proved to be a teratoma. It might be similar to the growth that Dr. Wishart described.

**Bronchoscopic Diagnosis of Interpulmonary Disease.**—Dr. SIDNEY YANKAUER, of New York, read a paper on this subject.

Dr. CHEVALIER JACKSON, of Philadelphia, said he thought Dr. Yankauer deserved a great deal of credit for having worked so energetically and so enthusiastically on research in bronchial disease. He thought foreign body work had dwarfed the work in diseases of the bronchi, and probably in twenty years from now, if such men as Dr. Yankauer continued to work on it, the shoe would be on the other foot. The most essential thing, it seemed to him, in placing bronchoscopy on a sure footing with the surgeon and the internist was to develop the technic to the point where the tube could be slipped in readily without general anesthesia and the ordeal would not be such a formidable one that the patient and internist and surgeon would dread it.

In regard to tuberculosis, it was such a protean disease that it was probable that there would be many different endoscopic pictures seen. He mentioned only two. In one, in a child one year old, supposed by the father, a physician, never to have had temperature elevation, a large thymus showed in the ray. Bronchoscopy showed compression stenosis of the trachea, but on going down the left bronchus, the child became black in the face, and he withdrew and went down the right bronchus, and the child ceased respiration. Both bronchi were corked with cheesy material occluding the lung tissue from aeration. He withdrew and the breathing became quite good again, but later the child died. A postmortem was done and there was found an enormous thymus gland extending over much of the anterior surface of the lungs. Both lungs were tuberculous. The occluding material, which had caused the dyspnea and which he had not had time to identify, was found to be cheesy glands that had broken down. He had a vivid mental picture of the endoscopic appearance and had made a drawing of them. In the other case all he could see was pus and blood coming out of the upper lobe bronchus, the orifice of which was in a state of chronic inflammation. The stem bronchus was also in a state of chronic bronchitis, differing somewhat from that seen in nontuberculous bronchitis. From seeing tuberculosis in other mucosae, he assumed that those bronchi were not involved in the local bronchitis, but that it was a chronic bronchitis. What the lesion was in the upper lobe he could not tell, but the sputum was laden with bacilli. The work was only in its infancy, and he thought it behooved all to explore every case in which bronchoscopy was justifiable, and especially to develop the technic so as to increase opportunities for study.

**Foreign Bodies in the Esophagus and Bronchi.**—Dr. C. J. IMPERATORI, of New York, presented a report of six cases of foreign bodies in the esophagus and bronchi, which appears on page 438.

Dr. CHEVALIER JACKSON, of Philadelphia, said he thought that Dr. Imperatori was to be congratulated on the case with the razor blade, which seemed to him to be a formidable object to remove. He thought that in protecting the tissues with the lip of the tube he had exercised great skill. With a foreign body of that kind, it seemed to him it would have been easy to have laceration of the tissue

which would extend down into the mediastinum. Subglottic edema being present before bronchoscopy was a fact that was frequently overlooked. All ought to note whether it was present or not before the bronchoscope was introduced. If present beforehand in a very young child, especially if the bronchoscope was in for a long time, tracheotomy was probable. On the other hand, if there was no subglottic edema, a tracheotomy was not likely to be necessary, unless the bronchoscopy lasted longer than it should. The prolonged contact of the tube in a child less than two years of age should be avoided. When the time limit was reached the bronchoscope should be withdrawn and not reinserted for a week unless for urgent reasons. Dr. Imperatori was to be congratulated on the case in which he had coaxed the foreign body up—the case of the ball bearing. It should be our effort to coax the foreign body up and not to pursue it downward. Dr. Jackson said he had added that to the postulates he had formulated years ago. The deeper a foreign body was driven the more difficult it was to remove. He was glad to note that Dr. Imperatori had had an after x ray taken. For many years a roentgenogram had always been taken after the removal of the foreign body. Some important data had been accumulated, a part of which had already been published, by taking an x ray after bronchoscopy, whether the foreign body showed beforehand or not.

In many of his cases Dr. Jackson said that Dr. Manges and Dr. Spencer had brought out the diagnostic value of the point that in certain foreign bodies, especially peanut kernels, there was an increased density on the uninvaded side. He understood that in Dr. Imperatori's case the diaphragm was flattened and the mediastinum and heart were displaced over toward the uninvaded side; also that there was an emphysema due to the valvelike action of the foreign body, a phenomenon that was first brought to my attention by Dr. Iglauer. In cases of nonopaque foreign bodies like peanut kernels, Dr. Manges had come to recognize the nonopaque side as the invaded side, and quite a large series of cases had been reported demonstrating the fact.

Dr. Jackson said that the grape stem case brought to his mind an experience he had had with Dr. John Rodman, who had invited him to do a gastroscopy on a patient on whom he had done an abdominal operation with resection for malignancy. He had passed the gastroscope and had seen an object much like that specimen that was being exhibited. He asked the intern if the man had had anything to eat, and he replied that he had had grapes that morning. Dr. Jackson, said that he saw a grapestem and would remove it. Before doing so he asked Dr. Rodman to look in, who announced to the students and members of the faculty of the Medico-Chirurgical College present that the grape stem was his Pagenstecher sutures.

Dr. HENRY H. FORBES, of New York, suggested that in small children the anterior commissure should be used rather than Dr. Jackson's instrument. He had given up using the small Jackson instrument because he had had two cases of foreign bodies in which the edema was so marked that it filled up the lumen of the tube.

Dr. THOMAS E. CARMODY, of Denver, said that several years ago he had had a case of subglottic edema in a boy between four and five years. He believed, however, that part of the trouble was due to too prolonged instrumentation. He had to do a tracheotomy but in spite of the tracheotomy a tracheal edema developed and death followed. He said he had noticed the point brought out by Dr. Jackson concerning the side on which the foreign body was not showing in the skiagraph. In fact in one of the first cases he had had it was shown that that bronchus was plugged and the air absorbed.

Dr. RICHMOND MCKINNEY, of Memphis, Tenn., said that the point about subglottic edema in young children was very important. He had lost a patient several years ago in whom he had done an esophagostomy for an overall button. The child had been allowed to choke to death without Dr. McKinney being notified. He said he watched these cases closely, and if an edema developed he performed a tracheotomy which did not add to the danger. One felt safer with the trachea open, realizing that the child was getting plenty of air.

Dr. SAMUEL IGLAUER, of Cincinnati, referred to the phenomenon that Dr. Jackson had spoken of, that is, a clear lung on the side on which the foreign body was located was not due to absorption of the air but to trapping of the air. There was a tendency to close out the air during expiration and that led to ballooning out of the lung on the affected side. That, of course, only meant in the early stages of the condition because if the foreign body was there long enough, one would eventually get a foreign body with consolidation.

Dr. WILLIAM B. CHAMBERLIN, of Cleveland, said that he had had recently two cases of foreign bodies in the left bronchus; one was a peanut completely plugging the bronchus. Shortly afterward he saw a child two years old with a kernel of corn in the same position—in the left bronchus. He was yet unable to explain how he lost that case. He located the foreign body easily, but as the child became cyanotic, he desisted from any attempt to remove it. Twenty-four hours later he made another attempt and removed the foreign body in five minutes; using the angular forceps of Jackson. He could feel the tug of the lung as he pulled it out. There was absolutely no bleeding. The child left the table apparently in good condition at two o'clock in the afternoon and went through the night in good condition. The next morning Dr. Chamberlin was informed that the child had died suddenly. Dr. Chamberlin had reported this case because he was anxious to know whether other men had had similar experiences. He was at a loss to account for such a sudden death eighteen hours after the operation. The foreign body was a kernel of field corn and was removed intact.

Dr. HENRY L. LYNAB, of New York, said he thought Dr. Imperatori was to be congratulated on his series. Every once in a while a patient would attempt suicide by a foreign body. Dr. Jackson had kept a lady alive who had swallowed tacks, and now Dr. Imperatori had come along and removed a razor blade. While down south Dr. Lynab said he had met a woman who was in the habit of swallow-

ing safety pins, and he had removed three safety pins on six successive days. Then she swallowed a third one that passed; and then she took the fourth pin and put it in her throat. Her husband had had her x rayed, and an enormous safety pin had been located. In trying to close on the pin it was forced down into the stomach. The pin remained there and it finally perforated and she succumbed.

Ballooning of the lung occurred in cases of foreign body and influenza and diphtheria. The patients were ballooned on both sides and had asthmatic attacks with dyspnea. These cases were due to an enormous amount of pulmonary engorgement plus ballooning of the lung, and the patients wheezed and died of exhaustion. In those cases the patients always suffered from a marked amount of cyanosis, and the cyanosis had been proved on dogs to be due to emphysema on one side as Dr. Iglauer had explained. In the case of the ball bearing in the lung, that lung was completely cut off and that object lodged in the right bronchus and succeeded in plugging it so well that there was no air going into the lung.

**An Aid to Diagnosis of Suspected Foreign Body in the Esophagus.**—Dr. ELLEN J. PATTERSON, of Pittsburgh, read a paper on this subject which appears on page 447.

Dr. CHEVALIER JACKSON, of Philadelphia, said that Dr. Patterson's crisp, terse paper called to mind many ordeals that he had had. He thought one of the greatest trials of his life had been the hysterical patient or the patient he supposed was hysterical but was not. The hysterical ones were not always women; he had seen hysterical men. The question to decide was whether or not to do an esophagoscopy. Of all the difficult decisions for him the most difficult one was whether or not to put down an esophagoscope in certain cases. He did not want to put down an esophagoscope in every patient who thought he had a foreign body, and he believed Dr. Patterson had given them a working plan. Fluoroscopy required one experienced in esophageal work. In the average patient, in swallowing, the capsule or any other visible object swallowed did not go straight down with even, steady motion but there were hesitations, more marked in some people than in others, and it required a nicety of decision to say whether an opaque capsule had touched the foreign body, hesitated a moment and gone on. He was astonished at the number of radiographers who did not know about that opaque capsule. Of those who did know, some were unaware of the error to which they are liable from lack of previous fluoroscopic study of the esophagus. The question to decide was one of four things when a patient came in and thought there was something sticking in his "throat." First, was it pure imagination in a neurotic case; second, was there a foreign body present; third, were the patient's sensations truly described and due to the foreign body; or, fourth, were they due to abrasion by the foreign body or by digging with the fingers. Dr. Jackson said he had about come to the conclusion in those cases where there was still a doubt, especially when fluoroscopy was negative, that instead of putting down an esophagoscope it was wise to give the

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patient bismuth with calomel and wait and see whether the sensations did not subside completely. The opaque capsule, if filled with bismuth, had a local beneficial effect when it dissolved at the site of a foreign body.

Dr. THOMAS HUBBARD, of Toledo, said that Dr. Patterson's paper had opened the question of differential diagnosis—foreign body or nerves. That ingenious method would be applicable to certain cases. The two plane method, examination through the fluoroscope anterioposteriorly and laterally, gave useful information. If, for instance, there was a flat foreign body which was not opaque to the ray, by the lateral method the thinning out could be detected, a ribbon shadow of barium deflected forward or backward, or both. Anterioposteriorly simply the site of obstruction could be located.

One should not indiscriminately label these patients hysterical. He called attention to the fact that anyone would become excited and even hysterical when he realized that there was an obstruction to the *prima via*. That brought on symptoms which were like hysteria. In the true hysterical case, the groups of nerves and muscles which performed a certain function were involved. In organic nerve disease only a definite nerve tract was affected; in the hysterical the whole function of deglutition might be involved, many nerves, including even the sympathetic system, were in confusion. These patients should not be labelled hysterical simply because they became hysterical on being choked. Any one would do that. In the true organic type, such as general paresis, there was a definite paresis or an anesthesia that simulated foreign body obstruction or spasm or anything else. In the hysterical an area of anesthesia might become hyperesthetic under the influence of psychic fixation, and that produced the tonic spasms, such as esophagismus.

The laryngologist saw many phases of incidental hysteria, but not all nervous throats were hysterical.

Another point that Dr. Hubbard brought out was the existence of cases of esophageal myositis of the rheumatic type, which might be of sudden onset like muscular rheumatic pains anywhere. Dysphagia might result of such severity as to suggest foreign body. It was easy for any patient to get that suggestion and then insist that there was a foreign body in the gullet. Examination showed an edematous mucosa, and the symptoms were characteristic of rheumatism. Dr. Hubbard said that his patients had improved promptly under large doses of salicylate of sodium by rectum. He had not been able to find much in the literature about that type of myositis of the esophagus, but he believed that it was a clinical entity and some of these obscure cases labeled foreign body would come under that classification. The differential diagnosis of esophageal disorders was much complicated by the fact that the pharyngeal plexus was very susceptible to psychic interference. The method described by Dr. Patterson would aid in clearing the diagnosis in obscure cases.

Dr. JOHN W. MURPHY, of Cincinnati, said he thought great care should be exercised in deciding whether these cases were of a hysterical or neurotic type. He recalled two cases that he had treated, one a young woman brought by a doctor who said that she was hysterical and thought she had a bone in her esophagus; he had examined her and could find none, but she would not be satisfied until Dr. Murphy had examined her. After he had got the patient's history and her symptoms he felt justified in putting down the esophagoscope and removed a meat bone an inch long. So that the woman was being accused of hysteria when there really was a foreign body. Dr. Murphy told of another woman who for seven weeks had been complaining of a foreign body in her esophagus. Finally she came to his office and she said she was sure she had a foreign body there. She had had an x ray taken, and everything was negative, and they assured her it was a hysterical condition. However, she described her symptoms and she said she had reached the point where she could hardly swallow any more. He put down the esophagoscope and at the cardia there was a beef bone as large as the first phalanx, a very hard, sharp bone which had been in that situation for seven weeks, and it was removed without difficulty. Now she had been accused of hysteria. The x ray man had made the mistake of not x raying low enough. They usually considered that the foreign body must be high up; and he failed to get low enough to catch that bone which could have shown easily.

Dr. Ellen J. Patterson said she was glad to hear the discussion. There were people who could not swallow a capsule. Dr. Grier gave these patients a capsule, and then if it did not go down, he gave a glass of water, and if the capsule still remained he made a plate. Where there was a foreign body in the esophagus, the capsule would usually lodge above the obstruction or stricture.

**Report of a Case of Tracheo-oesophageal Fistula.**—Dr. SAMUEL IGLAUER, of Cincinnati, reported this case. His report appears in full on page 464.

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## Collectanea

**Alcoholism and Heredity.**—Casper L. Redfield (*Medical Review of Reviews*, June, 1920) draws inferences as to the result of experiments on the effect of alcohol on guineapigs, combined with observations made on the results of special training and heredity in horses and dogs. He emphasizes the fact that alcohol acts as a poison to delicate organs with which it comes into contact, but that these organs gradually develop a resistance to such poison. The injury thus caused by a poison is one thing, but the resistance which is developed in fighting the poison is another thing and must be reckoned with. The author compares the effects of alcoholic poisoning and the resistance developed to the development acquired as a result of exercise in animals. He finds that this development acquired by exercise while an animal is in its immature stage (before sexual maturity) is an ordinary character, and is therefore transmitted from a parent to offspring of both sexes equally. But a development which is acquired after sexual maturity has a sex limitation, and is transmitted only to offspring of the same sex as that of the parent which acquired it. The trotting and stud record of the famous horse, George Wilkes, is reported in some detail as illustrative of the truth of this contention.

**The Anesthetized Soldier.**—The anesthetists of today divide the army men into two classes, those who resemble the units of the old army in being physically fit and possessing good health, and those who are rendered fit by an intensive training. The latter type often show severe aftereffects. Stanford Read notes that the necessary curtailment of free thought and action involved in army discipline naturally leads to much repression. This at length calls for a vent for the lower instincts and an escape into the unbridled license of savagery.

The soldier exercises severe repression just as long as his controlling centres remain in control of his actions and when obliged to take an anesthetic is usually under the dominion of fear and other emotions.

The narcotic destroys this system of selfrestraint and opens the gates of primitive instincts. Cannon has also shown that intense emotions provoke adrenalism, and it is probably correct to believe that the endocrine gland secretion is increased by similar stimulation. No doubt this accounts for some of the abnormal states of the circulation in such cases.

Picture the mentality of the soldier and realize that it may produce the inconvenient activity under an anesthetic. It makes some of them vividly recall recent experiences, in others it is the blurred impression of a phylogenic complex in which the man is carried back to primitive environment.

There is not a gulf fixed between the mentality of the soldier and the civil neuropath. This is emphasized in the article we quote from Dr. Dudley Buxton in the January *Proceedings of the Royal Society of Medicine*. The fighting rage of the soldier and the perverted mind state, whether conscious or subconscious, of the neuropath are both departures from the normal and cause similar conditions under anesthesia.

**Chinese Honors for Medical Missionaries.**—The Chinese Government has conferred the Order of the Chia Ho, Fifth Class, upon three British medical missionaries, Dr. Davenport, Dr. Cousland, and Dr. Gillison, says the *British Medical Journal* for February 5, 1921. Dr. Cecil J. Davenport was president of the China Medical Missionary Society during three years of the war, and recently presided at the medical conference held in Peking. He receives the Chia Ho for pioneer work in Chungking and Wuchang, and also for his work since 1904 as chief of the Shantung Road Hospital. He has seen thirty-one years' service in China. Dr. Philip B. Cousland was formerly at Chaochowfu, Fukien Province; he is now engaged in translating foreign medical books into Chinese and in helping to form a Chinese medical terminology. The decoration is bestowed for long and useful service in pioneer medical and literary work during thirty-seven years in China. Dr. Thomas Gillison worked for nearly thirty-five years in Hankow, and is now teaching in the Shantung Christian University, Tsinan. The award is in recognition of pioneer medical work in Central China, and of educational and literary work in Hankow and Tsinan.

**The Reporting of Food Poisoning.**—An editorial writer in the *Lancet* for January 29, 1921, calls attention to the fact that under existing regulations neither medical practitioners nor the general public are obliged to report cases of food poisoning to the medical officer of health, but there is every hygienic and social obligation for doing so. A statutory duty rests upon medical officers of health to report to the Ministry of Health any outbreak of serious epidemic disease, and in a recent circular the Ministry requests medical officers, whenever they have reason to suspect that any death or outbreak of illness in their districts is due to food poisoning, promptly to notify the Ministry, which may be in a position to offer useful assistance in regard to the immediate measures to be taken, and to elucidate points at present obscure in the causation of food poisoning. Early notification may show that other cases are occurring elsewhere from similar causes—e. g., where one or two members of a household are suffering in consequence of the consumption of canned food from a particular can other canned foods of similar origin may be causing illness elsewhere. In any outbreak where the implicated food has been prepared in the district the medical officer is advised to proceed at once with detailed investigations into the conditions of its preparation, and to obtain material for bacteriological or chemical examination, steps being taken the while to prevent further consumption of the suspected food by stopping its sale and recovering unconsumed portions of what has already been sold. Suggestions are made in the circular for the collection and examination of material for chemical and bacteriological examination, and the reminder is added that the serological reaction of the blood of persons attacked should always be bacteriologically investigated. An appendix to the memorandum contains the headings of inquiries appropriate for outbreaks of poisoning by meat foods and when contamination with inorganic poison is suspected.

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**The Perennial Fool Crop.**—One man, a German, Willi von Unruh, a Berlin engineer, knowing that fools flourish, contrived to work on their credulity, and not theirs only, but also on that of business men to the tune of £150,000 for an invention which he said he had conceived, wherewith atoms could be broken down and forced to yield up their immense stores of locked up energy. This wonderful machine was locked up in a box, and seemed to do all that was required, but von Unruh evaded every effort to apply crucial tests, and, finally, its atom breaking energy was traced to the commonplace electric supply main and other outside agencies.

**The International Artificial Pneumothorax Society.**—This society was originally established as a bond of union between medical men interested in artificial pneumothorax all over the world. Now that this treatment has received general recognition the society has modified its program, says the *Lancet*, limiting its functions to that of a central exchange, so as to enable its members to direct their patients, when travelling abroad, to fellow members and experts in this highly technical treatment. In the past patients, who travelled afar and who required refills without the inconveniences of returning home for this purpose, have often experienced difficulties in finding practitioners expert in this treatment. Professor Carpi, of Lugano, Switzerland, is secretary of the society.

**Maternity and Child Welfare in India.**—The valiant struggle of the Women's Medical Service of India against prejudice, dirt, and ignorance does not cease, and new methods are constantly being devised to popularize the health movement among Indian families. The annual report for 1919 of the National Association for Supplying Female Medical Aid to the Women of India records an increased Government subsidy of two and a quarter lakhs (over £20,000). It is also recorded that all hospitals under members of the Women's Medical Service now have qualified matrons and are engaged in the training of Indian and Anglo-Indian nurses and midwives. The Council note the revival of activity in the attempt to improve conditions of childbirth, and emphasize the need for the training, followed by constant supervision, of the indigenous dai (hereditary midwife). The women of the poorer classes turn to the dai, even as in England they used to cling to the handy woman, and experience has shown that more useful work can be done at present by educating the dai than by attempting to supplant her. The Victoria Memorial Scholarships Fund has decided to assist only indigenous dais to become trained midwives, since the few better educated women who desire training have other opportunities for obtaining assistance. Unfortunately the trained dai who works among those sections of the community tenacious of old customs tends to revert to former practices unless constantly supervised. An Association for the Provision of Health and Maternity Supervisors has been formed, but the difficulty of selecting candidates suitable to be trained for these higher posts is great. The standard of obstetrical knowledge required even of doctors, men

and women, trained in India will also have to be raised if maternity conditions are to be improved. At present the universities require the candidate for a degree in midwifery to have conducted no more than six cases. On the other hand, Dr. D. Curjel, recently appointed medical secretary to the Victoria Memorial Scholarships Fund, records that interest and enthusiasm for child welfare schemes is becoming noticeable throughout the country. A further indication of this interest is the success of the Maternity and Child Welfare Exhibition held at Delhi in February last. A sumptuous volume, excellently printed and illustrated, describes the various sections of this exhibition, and not only includes the leaflets and pamphlets issued, but reprints the lectures delivered. Among the medical lecturers were Dr. A. Lankester, Dr. Ruth Young, Lieutenant Colonel A. Frost, R. A. M. C., Major F. Cragg, I. M. S., and Dr. Yamini Sen. The need for attention to child welfare in India could not be emphasized more strongly than in the results of two inquiries quoted by Dr. Lankester. The total number of pregnancies in a series of fifty married women who presented themselves at the Lady Dufferin Hospital at Karachi was 241. The number of children surviving was twenty. In Delhi, of 1,000 consecutive multiparæ attended in labor, 657 had lost their first born.—(*Lancet*, January 28, 1921.)

**Influenza Studies.**—Raymond Pearl (*United States Public Health Reports*, February 18, 1921) presents further data on the correlation of the explosiveness of the 1918 epidemic of influenza. In the first of these studies, published in the fall of 1919, a definite and sensible correlation was established between the explosiveness of the outbreak of influenza in 1918, as measured by an epidemicity index, and the normal death rate from certain organic and chronic diseases. The present, more critical study, attempts to determine by multiple or partial correlations the chief factors for the great variation in explosiveness in thirty-four American cities. New indexes are employed and every effort made to get critical quantitative measures of the variables involved. In general the second study confirms the first; and the author believes that the critical refinements introduced fully meet all earlier criticisms. He maintains that the correlation between the death rate from organic diseases of the heart and explosiveness of the influenza outbreak is extremely significant. He points out that the normal death rate from pulmonary tuberculosis and the explosiveness of the epidemic, though sensibly correlated, is not markedly so; and that the death rates from cancer and typhoid fever show no sensible correlation. Moreover, of the six environmental and demographic variables considered only one, the latitude of the city, shows any correlation with the epidemic; and the significance of this is held to be doubtful. A similar correlation between deaths from influenza and from cardiac diseases was also found, but not between it and acute nephritis, Bright's disease, or tuberculosis. The author concludes that the results indicate clearly that explosiveness of outbreak and total destructiveness are distinct but related epidemiological characteristics.

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**For Secretary of the Interior, Dr. Evan O'Neill Kane.**—The Lord High Executioner in *The Mikado* brought joy to the next appointed victim by holding that the official, himself condemned to death, could not cut off another's head until he'd cut his own off. (*Commerce and Finance*, February 23, 1921.) Dr. Kane, of that ilk in Pennsylvania, who has taken out some twenty thousand vermiform appendices, got the idea that he ought not to remove any more until he had taken his own out and proceeded to put himself on the operating table. Scorning a general anesthetic, he applied a local agent and calmly leaned over and excavated his own interior. The only advantage he had was in not having to waste time asking the patient whether it hurt. Then he sewed himself up again, exchanged the usual felicities with himself on everything having gone so nicely, gave a final count of instruments, sponges and bandages to make sure that he had not sewed anything inside himself by mistake, noted his own name and address and in due time will send himself a bill and when he feels flush will draw a check to his own order and add the amount to his income tax return. Unfortunately he cannot deduct an equivalent amount as an expense, so he will have to pay an income tax on his own bill unless he is able to prove that it is uncollectible, but he may accomplish this by suing himself and showing himself to be judgment proof.

There is no union among the doctors, otherwise Dr. Kane would be subject to criticism for allowing one man to serve both as surgeon and patient, thus making one man do two men's work, like Ian MacLaren's Scotchman who both made a joke and saw it. There is an ancient proverb that a man who is his own lawyer has a fool for a client, but nothing of the sort holds for the medical profession. It is pleasant to note that the doctor is doing well and contemplates giving a series of lectures on *Getting Inside Oneself*. Dr. Kane says it was the simplest thing in the world.

**The Housing Problem in Paris.**—At its last sitting, before the New Year adjournment, the Paris Municipal Council adopted a housing scheme. (*Lancet*, January 29, 1921). Mons. Etevenon, municipal inspector of houses, described the project, for which fourteen thousand metres of land have been secured in the Picpus quarter. There will be three streets with houses six stories high, but the houses will be so placed and the space around so spacious that all the walls will be exposed daily to direct rays of sunlight. They will contain 628 tenements and there will be a large central square or playground. Of these three hundred will consist of a kitchen and three or four rooms and two hundred of a kitchen and two rooms. Each room will measure from eleven to thirteen square metres. Then there will be one hundred cabinets where the tenants can take douches and a steam laundry will be put at their disposition large enough for eighty tenants to do their washing at one and the same time. They will save much time and trouble by using the machinery available; and, though a small charge will be made, this will cost much less than if each tenant had to warm his own boiler and work his own mangle. The sum paid will help to defray

the general cost. In the same way also shops and trading premises on a level with the streets will be let at commercial rents, to reduce the deficit which may result if, as proposed, the tenements are let at a low rental. The capital expenditure voted for this enterprise is twenty-seven million francs, or at the normal rate of change £1,080,000; but as it will take three years to build these three new streets it is calculated that the cost will be much less toward the end than at the beginning of this period. In any case, the municipality feel they must strive to solve the housing problem, even if this involve financial loss. Besides, 628 good tenements, though involving a loss at first, will prove in the long run a profitable property. This is all the more probable as few tenements will offer such advantages. Nor is this the only enterprise of the sort the city of Paris has in hand, though it is the newest venture. Eleven groups of cheap buildings commenced before, and interrupted by, the war are now being completed. Buildings commenced by private enterprise, but abandoned, have been bought up by the municipality, and thus in a few months' time the city will be able to offer at cheap rentals some eight thousand tenements to the distressed population. A great deal also has been done within a radius of thirty miles outside the capital to meet the lack of housing accommodation.

**Canal Zone Activities.**—Dr. Franklin Martin, secretary general of the American College of Surgeons, arrived on the steamship *Ebro* on February 7th, and gave a luncheon at the Union Club of Panama to the local Fellows of the college.—Smallpox is reported among the colored population of Colon, R. P., being imported from the interior provinces. About a thousand persons are being vaccinated daily.—The citizens of Panama have petitioned the War Department to continue Major E. A. Bock, Medical Corps, U. S. A., as superintendent of Santo Tomas Hospital.—A recent order of the Governor of the Panama Canal places aircraft in the same quarantine category as ships, and when the American fleet rendezvoused recently at Balboa, Canal Zone, the air fleet was subjected to quarantine inspection.—During the absence of the chief health officer, Colonel H. C. Fisher, Medical Corps, U. S. A., in Costa Rica, Dr. D. P. Curry was acting chief health officer. Colonel Fisher visited San José and Cartago, Costa Rica, as chairman of a committee appointed by Governor Harding to select a vacation site for employees.—Yellow fever is reported in the Lambayeque Department of Peru. Dr. Henry Hanson, formerly chief sanitary inspector of the Canal Zone, has gone from Callao to Eten, Ferranafe and other points to determine the extent of the disease and to institute eradication measures.—Colonel J. H. White, U. S. P. H. S., passed through the Canal recently homeward bound from the Pan-American Sanitary Congress at Montevideo, Uruguay.—Dr. Henry Goldthwaite, health officer of the City of Panama, has taken over the collection and disposal of the garbage of that city and of the Canal Zone towns of Ancon, Balboa Heights, Balboa, LaBoca, and Quarry Heights.—Alastrim continues in Jamaica, 318 new cases being reported for the week ending January 13, 1921.

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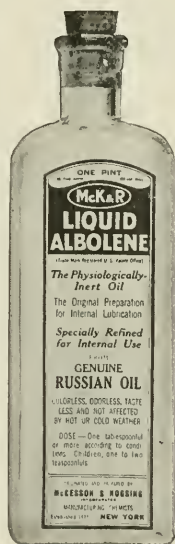
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## Rheumatism—Neuralgia

Tongaline acts on the nervous system of the secretory organs and on the glandular apparatus. This action shows itself by exaggerating the functions of all the organs of elimination.

These conditions secure the attainment of the desired effect, which is to expel all those agents, the accumulation and retention of which, are the causes of rheumatism and neuralgia.

### SCIATICA—LUMBAGO

These diseases, although different in origin and nature, the one a neuralgic and the other a rheumatic affection, are generally associated.

Tongaline exerts a specific action on the excretory system, thus not only palliating the pains, but thoroughly eliminating from the body the direct causes of these diseases.

### INFLUENZA

TONGALINE has been most successfully prescribed for the influenza, because it thoroughly and promptly eliminates the poisonous secretions through the various emunctories, thus restoring the diseased organs to their normal functions.

The administration of Tongaline should be continued to prevent the sequelae of influenza, always serious and frequently most dangerous.

### TONGALINE LIQUID — TONGALINE TABLETS TONGALINE AND LITHIA TABLETS TONGALINE AND QUININE TABLETS

Samples on Application

Mellier Drug Company, St. Louis

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Awake to the advantages of direct medication, we offer a complete line of pure and stable products which may be injected into the blood stream with the certainty of no untoward effects.

Our Intravenous specialties are listed below and to interested physicians we will be glad to send extensive literature, reprints, price list, etc.



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(Syphilis)  
Dimethylarsenate, Mercury, Iodides, Phosphorus.

**ENDOMERSAN**  
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Mercury, Dimethylarsenate, Iodides.

**ENDO-SODIUM IODIDE**  
(Asthma)  
2 grams of Sodium Iodide

**ENDOMETHYLENAMIN**  
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(Rheumatism, Streptococcus Infections)  
Iodides, Salicylates, Colchicine.

**ENDOCREODIN**  
(Bronchial and Pulmonary Affections)  
Iodides, Gualacol, Creosote.

**ENDOCAODIN**  
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Calcium, Iodides, Gualacol.

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Quinine Hydrochloride.

The two following preparations are not to be used intravenously  
**GUIOLEUM**  
(Gonorrhea)  
Electrolytical Iodide in Oil.  
For local use only.

**GLYCO-ASEPTIC**  
(Mucous Membrane Affections)  
Glycerin, Iodine, Tannin, Phenol, Borax.  
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## Intravenous Products Co. of America, Inc.

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Tasteless. Odorless. Crystalline Product.

For the treatment of Dysmenorrhea, Dysentery, Diarrhea, Hiccough,  
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Positive Non-Depressent Vaso-Dilator and Anti-Spasmotic is indicated.

*It does not nauseate or cause other intestinal disturbances when  
given in large doses or over considerable periods of time.*

SUPPLIED IN BOTTLES OF FORTY 5-GRAIN TABLETS

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A powerful digestant for the successful treatment of all forms of indigestion.

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Free to  
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A combination of the principal endocrine glands, invaluable in all conditions of lowered vitality.

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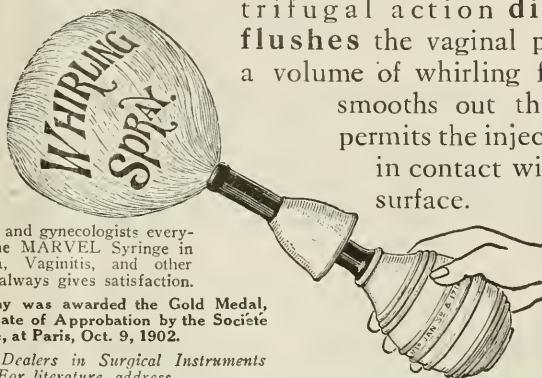
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*Response of Certain Skin Inflammations  
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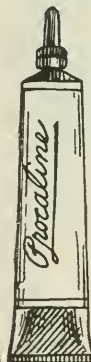
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Procaline is safe, non-irritating, easily applied and efficient.

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The physicians who are administering the product are well satisfied with the results obtained. Silver-Salvarsan effects a more rapid disappearance of the contagious lesions than the other forms of Salvarsan and practically no reaction follows its administration.

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Dysmenorrhea, Menorrhagia and other manifestations of painful and distressing menstrual abnormalities, calls for the administration of

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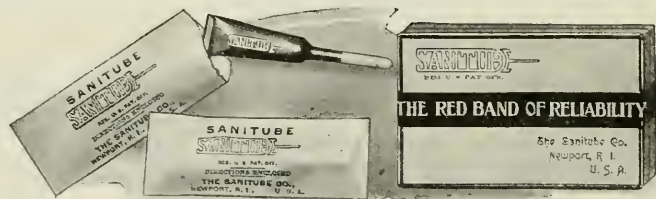
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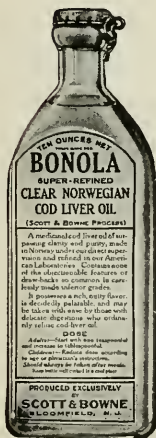
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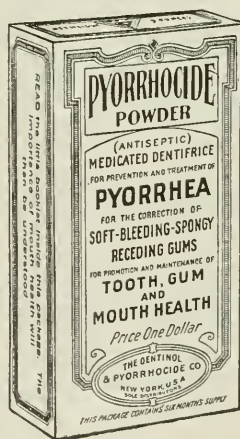


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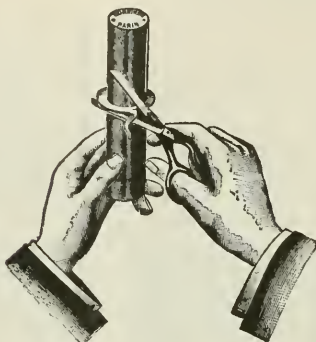
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